United States Court of Appeals for the Second Circuit



APPENDIX



75-7382

United States Court of Appeals

FOR THE SECOND C ACUIT

YAWATA IRON & STEEL CO., LTD.,

Plaintiff-Appellant,

-against-

ANTHONY SHIPPING CO., LTD.,

Defendant-Appellee,

JOINT APPENDIX

[Volume I—Pages la to 254a]

BIGHAM ENGLAR JONES & HOUSTON
Attorneys for Plaintiff-Appellant
99 John Street
New York, New York 10038
(212) 732-4646

Cichanowicz & Callan
Attorneys for Defendant-Appellee
80 Broad Street
New York, New York 10004
(212) 344-7042

Adams Press Corp., 130 Cedar Street, N. Y. 10006-(212) 233-1050

PAGINATION AS IN ORIGINAL COPY

INDEX*

Docket Entries
Plaintiff's Letter to Hon. Lumbard, C.J., dated May 7, 1975
Defendant's Letter to Hon. Lumbard, C.J., dated May 9, 1975
Opinion of Judge Lumbard
Judgment on Bill of Costs
Excerpts from Testimony
Hearing of March 4, 1975
Hearing of March 5, 1975
Hearing of March 6, 1975
Witnesses for Plaintiff
Robert Raguso:
Direct
Cross
Redirect
Richard Oakes Patterson:
Direct
Cross
(Recalled)
Direct
Cross

^{*}This Appendix consists of two (2) volumes. A complete index is printed in each volume.

John W. Gilbert:	PAGE
Direct	113a
Cross	
Redirect172	
Recross	
Witnesses for Defendant	
John R. Blackeby:	
Direct	. 182a
Cross	
Redirect	
Arthur H. Fertig:	
Direct	. 186a
Cross	
William Kaciak:	
Direct	. 194a
Cross	
Thomas A. Nielsen:	
Direct	. 206a
Cross	
Recross	
Edward Federick Ganly:	
Direct	213a
Cross	
Redirect238a	
Recross	

INDEX

Noimon Fountoukidis:	PAGE
	040
Cross	
Redirect248a,	
Recross	249a
Exhibits for Plaintiff	
1—Bills of Lading	255a
2—Pretrial Order	258a
4—Charter Party	269a
5—Draft Survey—New York	278a
6—Draft Survey Boston	280a
7—Stowage Plan	283a
8—Draft Statement	285a
9—Nine Bulk Carrier Pamphlet	286a
10—General Arrangement Plan—Elevation	293a
11—General Arrangement Plan—Plan View	295a
12—Capacity Plan	297a
14—Loading Manual	298a
23 (Excerpts)—Deposition of Akira Omachi	316a
24—Kobe Survey No. 3330	338a
25—Kobe Survey No. 3331	341a
26—Kobe Survey No. 3332	343a
27—Kobe Survey No. 3333	356a
29 (Excerpts)—Repair Bill	361a
33—Panama Canal Documents	364a
34—Ship's Position Report, January 21	.370a

	PAGE
35—Ship's Position Report, January 28	371a
36—Ship's Position Report, February 2	372a
37 (Excerpts)—Deposition of Michael Gregos	373a
38—Statement of Mikes (Michael) Gregos	410a
39—Marine Note of Protest	425a
40 (Excerpts)—Deposition of Nikolaos Kapantais	431a
41—Statement of Nikolaos Kapantais	459a
42—1969 ABS Rules 6.9 and 6.11	465a
43—1969 ABS Rule 12	467a
44—1969 ABS Rule 29	471a
45—1969 ABS Rule 43	473a
49—Chart	476a
51E—Table of Weather Data in Pacific	478a
51M-Table of Data for Exhibits 51G-51L	479a
53—Calculations of Naval Architect Gilbert	481a
54—Flooded Condition Drawings by Naval Architect Gilbert	
57—Agents Report of Panama	485a
60—Plan Showing Plates Renewed/Repaired	487a
61—Plan Showing Internals Renewed/Repaired	489a
Exhibits for Defendant	
A—Load Line Survey	490a
B (Excerpts)—Deposition of Trevor Morris	. 492
D (Excerpts)—Deposition of Reginald James Allison	

	-
E (Evernts) Deposition of National Comm. Br.	PAGE
E (Excerpts)—Deposition of National Cargo Bureau by Captain S. Fraser Sammis	503a
F—NCB Loading Certificate	510a
G-NCB Loading Certificate	511a
K-On Hire Survey at New York	512a
O-Master's Radio Report of Damage to Hatch	520a
P-Master's Radio Report of S.O.S.	521a
V—Weather Data	522a
BB-Load Line Certificate dated April 15, 1969	526a
CC (Excerpts)—Deposition of Nikolaos Ntaginis	529a
EE—Drafts at Canal Zone	544a



JOINT APPENDIX

Docket Entries

Date Proceedings

2- 3-71 Filed Complaint. Issued Summons.

2-24-71—Filed summons with marshal's ret. Served Anthony Shipping Co. Ltd. by John Doe, paper refused, left paper on reception desk on 2-8-71.

12- 5-72—Filed Answer to complaint.

2-13-73—Filed Notice of Deposition of Second Officer Gregos Mikes.

10- 5-73—Filed deft's notice of deposition of Second Officer Michael Gregos.

12-13-73-Pretrial hearing-Mag. Raby.

2-13-74—Filed pltff's request for production of documents.

2-14-74—Filed deft's notice to take deposition of Michael Gregos.

3-18-74—Filed affdyt. & consent order substituting atty. for deft. Griesa, J.

3-25-74—Filed deft's interrogatory.

3-22-74—Pre-trial conference held by Mag. Raby.

3-29-74—Filed pltff's interrog.

5-20-74—Filed pltfs. notice of deposition of National Cargo Bureau.

5-20-74—Filed pltfs. notice of deposition of American Bureau of Shipping.

5-20-74—Filed pltfs. answer to interrogatories.

5-20-74—Filed pltfs. notice to admit.

6- 3-74—Filed defts answer to pltffs interrogs of 3-28-74.

6- 3-74—Filed defts answer to notice to admit.

7- 3-74—Filed pltff Yawata Iron & Steel Co. Ltd.'s Amended answer to interrogs propounded by Deft. Anthony Shipping Co. Ltd.

6-20-74-Pre-trial conference held by Mag. Raby.

6-21-74—Pre-trial conference held by Mag. Raby.

6-24-74—Pre-trial conference held by Mag. Raby.

Docket Entries

Date

Proceedings

6-25-74—Pre-trial conference held by Mag. Raby.

10-15-74—Filed defts notice to take deposition of Surveyors Omachi, Morris & Allison.

1-29-75—Filed deft's notice to take deposition of Bo'sun Nikolaor Kapantais.

1-31-75—Transferred to Judge Lumbard.

1-31-75—Filed notice of reassignment to Lumbard, J. (m/r).

3- 4-75—Before Lumbard, C.J.—Non-jury trial begun.

3- 5-75-Trial continued.

3- 6-75—Trial continued and concluded—Decision reserved.

6- 6-75-Filed trial brief on behalf of Pltff. Yawata Iron & Steel Co., Ltd.

6- 5-75—Filed supplemental trial brief on behalf of Pltff. Yawata Iron & Steel Co., Ltd.

6- 6-75—Filed post-trial brief on behalf of Pltff. Yawata Iron & Steel Co., Ltd.

6- 6-75-Filed Deft's. reply brief.

6- 6-75—Filed Deft's trial memorandum.

6- 6-75-Filed Deft's. post-trial memorandum.

6- 5-75—Filed Opinion #42545 that the complaint is dismissed—This opinion constitutes the court's findings of fact and conclusions of law. Rule 52 (a) F.R.C.P.—Lumbard, C.J.

6- 9-75—Filed transcript of record of proceedings dated March 4, 5, 6, 1975.

6-11-75—Filed judgment dismissing the complaint—Lumbard, C.J.—Judgment Entered—Clerk.

6-27-75—Filed Pltff's Notice of Appeal to USCA from order ent 6-11-75... Copies of Appeal mailed on 6-30-75 to: Cichanowicz & Callan.

7-10-75—Filed consent pre-trial order. Griesa, J.

PLAINTIFF'S LETTER TO HON. LUMBARD, C.J., dated May 7, 1975

May 7, 1975

No: Thusta Irea & Steel Co., Ltd. v. Anthony Shipping Co., Ltd. - Tl Civ. 496 JEL (Sur File J 6750)

BY HAND

Honorable J. Béward Lumbard United States Court House - Rm. 2403 Poley Square Hew York, How York 10007

Boor Judge Lumbard:

We object to the new material in defendant's reply beint, ...

1. At the conclusion of the trial the service offered in evidence the official draft from the Passess Consi Zone which was "on the way" (Ex. EE). The earrier incluted as putting Exhibit HE is evidence in this manner. This was made clear by the Court's questions:

"And them, your Manor, I have requested, and I thought I would have it have today, r certified copy from the Passes Causi Ione of this ship's draft at the west through the Causi. It's on the way, and I wander if when that comes in. we can just submit it as an additional exhibit. It will be a certified copy of the official draft.

MR. JACOBSEN: Is it any different than the one that was given by the pilot?

MR. ALLEN: If I had seen it, I could tell you.

THE COURT: You don't know what it's going to say?

MR. ALLEN: I don't know what it's going to say, but it's going to be certified and official, and I will ask that it be --

THE COURT: You are willing to take that risk?

MR. ALLER: I am, I cortainly am, and I will effor it for no other purpose. I don't know what other information will be in there.

Would that be satisfactory to submit that within a day or two?

THE COURT : Certainly.

MR. ALLEN: Now I have one final request, your Henor.

THE COURT: Of course you will give a copy to Mr. Jacobson.

HR. ALLEN: Yes, of course, and I will show it to him before I submit it to the Court."
(TM 517-518)

The new material in defendant's reply brief attempts to emplain: away its own exhibit (EE) which it introduced after trial. Plaintiff has had no epportunity to cross-examine or introduce expert testimony with respect to the new material. Exhibit EE should be accepted in evidence as the official draft from the Fanson Canal Zone.

- 2. The arithmetic in Appendix A of defendant's reply brief is wrong. The defendant takes the efficial mean draft at Cristobal of 36'03" plus 3.5" for sag correction misses 10.5" and 2.0" and arrives at a draft of 35'03". It should be 35'06" with proper adding and subtracting. The mistake of 3" favore the defendant. Further emmination of the 10.5" and 2" figures discredits them as well.
- 3. The sag correction of 3.55" was used by the draft surveyor (Ex. 6) and the Master in his draft statement (Ex. 8).

 Mr. Gallert accepted and used the same sag correction of 3 5/8"

 (more accurately 3.55") for this leading in his calculations in Exhibit 53 on each page of the "draft statements." He sitemated between 3.563", 3 5/8" and 3.56", which are virtually the same thing.

The earrier and full appertunity to evens-emaples and attempt to robut Mr. Gilbert's calculations. Memover, when presented with the opportunity, the carrier's our expert, Mr. Gaely, agreed with Mr. Gilbert's calculations, including his use of the drifts statement (Ex. 8) in Beston (Tit 458). The carrier new ploads that it should be allowed to change the mag correction used by Mr. Gilbert (and approved by Mr. Gamly), and thus ignore the expert testimenty presented at trial.

Mr. Gilbert's embedded show a difference in draft of 8.765" between departure Fanama and the failure of No. 1 hatch cover (36'1 1/8", i.e., 36'1.125" minus 35'5,36" = 8.765") (Ex. 53 pp. 3 and 5). The carrier now asserts that this difference should be 16.5".

Honorable J. Edward Lumbard

2

-4-

This celculation should be left in the hands of the experts, who have already testified, and the carrier's calculation should be rejected.

should be eliminated because of the addition of 769 tons of bunker fuel and diesel oil at Famous over and above what was on board at Boston. At New York, when the vessel was light, the sag correction was zero (16'07.5" minus 16'07.5" = 9)(Ex. 5). After 5017.6 tons of cargo were loaded at New York, the sag correction was only 1.5" (17'00.5" minus 16'12" = 1.5") (Exs. 5 and 6). It took an additional Phyld3.5 tons of cargo at Boston, for a total of 25,161 tons, to sag the vessel 4.75" amidshipe, with a resulting sag correction of 3.55". The carrier now contends, after trial, that 769 tons can offset that. This is obviously wrang. Any adjustment, whether plus or minus, would be minor or Mr. Gilbert would have allowed for it.

4. The carrier also contends that the draft should be changed seemes of a difference in salinity. Here again, new material is set forth without the use of experts subject to cross-emmination.

Pirst, the salinity base that the carrier would have the Court nee to compare with the Cristobal salinity is the Gulf of Mexico, rather than the salinity in the open ocean in the North Pacific. What has the Gulf of Mexico got to do with this vessel? That load Line Marks are predicated upon the standard sea mater

density of 1.025 (International Conference on Load Lines, 1966, Benedict Vol. 6e, page 695, Art. 12(2)), not the Galf of Maxico which is of unusually high salinity. Mr. Gilbert need the standard density of 1.025 in all his calculations. See Exhibit 53, "draft statements", pp. 1-5.

Mext, defendant extracts the density at Cristchal and produces a salinity, but fails to first correct this density for the temperature difference. Unfortunately, defendant dis not vinclude page 102 of his Appendix G, the "Sea mater density at various temperatures," so that a density of 1.0212 at 60.1°C. could be adjusted to the correct density at 15°C. for the proper salinity reading.

defendant's reply brief is to obtain the base data from page 63 and then obtain the corrected density for 15° C. on page 102.

(Copy of page 102 is attached hereto. This is the step omitted by the defendant). Then go to table 4 on page 101 to obtain the salimity. In this case the salimity would be 33.1 at the marinae. This is then compared to the standard density of 1.025 at 15° g. which gives a salimity of 33.7 on page 101. Thus, the surface density at Cristobal is 90% of the standard density based on Appendix 6 (33.1 divided by 33.7 = 90%). This results in a surrection of .19" (9.5" minus 9.5" x 90% = .19"). This is insignificant.

Honorable J. Edward Lumbard

-6-

Appendix G.reform to surface water temperature and density. The Introduction on page 1 states that the "sample of water is drawn by bucket from a foot or two below the surface." The density is materially different at greater depths (the ANYOMIOS DEMADES had a draft of over 36'). Any fresher water is on the surface because it is lighter. Accordingly, a calculation based on such a salinity is insecurate to begin with.

Defendent attempts at page 12 of its reply brief to aminulate the difference between salt water and fresh water drafts. This is a unated effort. Both the Load Line Certificate (Ens. 59 and ED) and Ex. 12 expressly set forth this difference as 94".

Finally, at p. 13 of its reply brief the carrier refers to alleged trimming ballast for her transit of the Canal. The "fresh water draft" taken by the pilot at Gatun Lake was 36'06" forward and 39'06" aft for a mean of 38' (Ex. 33). This is 9.7/8" over the allemble trepical (fresh) draft of 37'2 1/8" before applying the sag correction of (+)3.55". Any ballast taken on board is reflected by the fresh water draft in Gatun Lake (Ex. 33).

No matter how the subject of draft is appreached, this vessel was overleaded.

Honorable J. Edward Lumbard

-7-

DOUBLE BOTTOM TANKS

At page 19 of its reply brief the carrier states:

"At page 78, the charterer's on-hise survey is criticised for not inspecting the double bottoms. This is a drydock inspection."

One does not go into the double betten tanks from <u>under</u> the ship. They are entered through the tank tope. The tank tope are on top of the tanks. They are also the bottom of the cauge helds (TM 432; Exs. 10 and 12). The double bettems were not inspected. They should have been.

Rosportfully, Bisman Roman Johns & Houseste

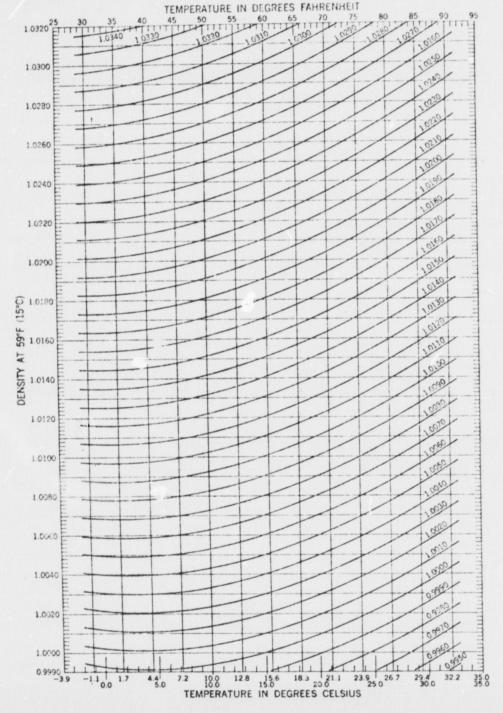
Douglas A. Jacobson

Encl.

ce: Denald B. Allen, Esq. Cichanovics & Callan 80 Broad Street New York, N.Y. 10004

DAJ/bs

The purpose of this graph is to provide the density of sea water at any temperature apt to be encountered when the density at the standard temperature of 59°F (15°C) is known. To convert a density at 59°F (15°C) to density at another temperature, enter the graph horizontally from the left with the known density and downward from the top or upward from the bottom with the desired temperature; the position of the point of intersection where the curves gives the density at the desired temperature. Interpolate between curves when necessary respect to the curves gives the density at the desired temperature. Interpolate between curves when necessary For example, by this method, water having a density of 1.0162 at 59°F is found to have a density of 1.0124 at 85°F. The densities are referred to the density of fresh water at 4°C (39.2°F) as unity.



DEFENDANT'S LETTER TO HON. LUMBARD, C.J., dated May 9, 1975

LAW OFFICES OF

CICHANOWICZ & CALLAN

80 BROAD STREET NEW YORK, N. Y. 10004 1975 MAY 12 TELEPHONES (212) 344-7
TELEX:
TELEX:
GABLE: BYCALLAN
OP-SOUNSEL

May 9, 41975

DONALD B. ALLEN
BYRON KING CALLAN
VICTOR S. CICHANOWICZ

JAMES J. BURNS, JR.
JOHN H. CLEVELAND III
TERENCE J. CONNORS
MICHAEL L. CORBETT
DENNIS P. COSTIGAN
GEORGE T. DELANEY
MARY T. DERMODY
PAUL M. JONES
NICHOLAS D. MILANO

Honorable J. Edward Lumbard United States Court House - Rm. 2403 Foley Square New York, New York 10007

> RB: Yawata Iron & Steel Co., Ltd. v. Anthony Shipping Co., Ltd. 71 Civ. 456 JEL Our File: 40-293 DEA

Dear Judge Lumbard:

We deplore the practice of arguing a case through the mail, but counsel's letter of May 7th leaves us in the emenviable position of either replying, or running the risk of having the Court believe that silence amounts to consent. We shall make our reply as brief as possible.

l. We apologize to Court and counsel for the arithmetical error in Appendix A, annexed to our Reply Brief. Earlier and more refined calculations had produced a draft difference in favor of the vessel of 4-5/8", but sings the favorable margin was so obvious, we reduced our calculations to those which were unassailable and simple to establish. In doing so, we neglected to correct the total. Fortunately, we should all the figures in the appendix so that the error was readily apparent.

2. Our Reply Brief was not, as alleged, an attempt to explain away Exhibit "EE". Rather, it was the first oppositionity for us to comment on the Graft evidence, since both of plaintiff's experts had testified that according to their calculations, the ship was not overleaded.

Honorable J. Edward Lumbard New York, New York

Wines . waln

May 9, 1975 Page 2

- 3. Ganly did not testify concerning the vessel's draft; he explained the cause of sinking. In doing so, he voiced appropriate of Gilbert's calculations on floodability. He did not approve Gilbert's draft calculations because he was never asked about them, and we did not even cross-examine Gilbert on this point in view of his conclusion that the ship was not overloaded.
- 4. Counsel's letter attempts to minimize the sag reducing effect of the bunkers loaded at Panzma by comparing the bunkers to the total weight of cargo. This is an musive argument because it does not squarely meet our point that the bunkers would have a trememdous lever arm by being stowed at either end of the ship.
- 5. Counsel's letter states (incorrectly) that no correction was made for water temperature. A careful reading of the instruction sheet to Exhibit "G", plus our calculations will show that we did correct for temperature. The comments on surface salinity are abviously insignificant. However, counsel errs in trying to suggest that Cristobal Harber is only 2% less saline than the ocean. Some of his calculations are obviously erroneous*, and anyone can see from Appendix C that large quantities of fresh water are constantly being spilled into the Bay each time the locks are emptied.

Very truly yours,

CICHAMONICZ & CALLAN

DBA , bp

By

* Bottom of p. 5 - (9.5" minus 9.5" x 98% = .19")

cc: Bigham, Englar, Jones & Houston, Esqs.
Attn: Douglas A. Jacobsen, Esq.
(Your File: J 6750)

UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF NEW YORK

____X

YAWATA IRON & STEEL CO., LTD., :

OPINION

Plaintiff,

-vs-

71 Civ. 456 JEL

ANTHONY SHIPPING CO., LTD., :

Defendant. :

----X

APPEARANCES:

BIGHAM, ENGLAR, JONES & HOUSTON, ESQS.
Attorneys for Plaintiff
99 John Street
New York, N.Y.
By: DOUGLAS A. JACOBSEN, ESQ.,

-and-FRANCIS O'REGAN, ESQ., of Counsel

CICHANOWICZ & CALLAN, ESQS.
Attorneys for Defendant
80 Broad Street
New York, N.Y. 10004

By: DONALD B. ALLEN ESQ., of Counsel

LUMBARD, Circuit Judge:

On February 7, 1970, the ANTONIO DEMADES, a 700 foot cargo ship owned by the defendant, Anthony Shipping Co., Ltd., then under lump-sum charter to the Hugo Neu Corporation, and carrying over 25,000 tons of steel scrap,

Sitting by designation.

where, Yawata Iron & Steel Co., Ltd., brought suit in the Southern District on February 3, 1971, claiming the ship-owner was responsible for loss of the vessel and Yawata's steel scrap valued at \$1,458,014.58. The determination of the cause of causes of the sinking in the February storm faces many difficulties of proof largely because the master and the first mate and the ship's logs were lost along with eight members of the crew. As the court cannot say that the cargo owner has established its case by a fair preponderance of the evidence, judgment must be for the shipowner.

The ANTONIO DEMADES sailed from Boston for the Panama Canal on January 6, 1970. The crossing of the Atlantic Ocean and Caribbean Sea was relatively uneventful (except for one period of bad weather) and the ship arrived at Cristobal in the Panama Canal Zone on January 13, 1970. The ANTONIO DEMADES was reprovisioned and then transited the Canal and sailed from Balboa for Japan on January 14. After the ship crossed the International Date Line on February 1-2, 1970, the weather worsened. According to Second Mate Gregos (the only surviving deck officer), in the early morning hours of February 6 the wind was about force 7 on the Beaufort Scale, and the vessel reduced its speed. At about 1400 hours on February 6, the McGregor steel hatch (the forwardmost cover on the No. 1 cargo hold hold) /and the hold flooded. At that time the ship was sailing into the storm and the wave action on the forward

part of the ship was such that the Master had to reverse course and reduce the vessel's speed by one half in order to be able to lead a party forward to examine the hatch cover and No. 1 hold. It was discovered that two sections of the hatch/had been twisted open and had been thrown on the deck. The hold was filled with water and the hatch cover could not be reclosed. Three hours later the Master turned the ship back into the wind and resumed his course towards Japan. About this time the ship's crew began pumping water out of No. 2 and No. 3 cargo holds and No. 2 and No. 3 double bottoms. Ten hours later (0500 hours on February 7) the Master ordered the crew to stand by to abandon ship and ordered S.O.S. signals sent. At 0815 hours the order was given to abandon ship. Thereafter the vessel gradually went down by the head and sank. Twenty members of the crew were saved by a ship responding to the S.O.S., but all of the ship's records were lost.

I.

The applicable law is contained in the Carriage of Goods by Sea Act (Cogsa). 46 U.S.C. §§ 1300-15.

Under Cogsa plaintiff established a prima facie case by showing that the scrap was loaded on board the ANTONIO DEMADES and that it was not delivered. After such a showing the burden is on the carrier "to bring itself within an excepted cause [under Cogsa] or to prove it exercised due diligence to avoid and prevent the harm." Lekas & Drivas, Inc. v. Goulandris, 306 F.2d 426, 429 (2d Cir. 1962).

If the carrier establishes that it falls within such an exception under 46 U.S.C. § 1304(2), the cargo owner must then establish that the vessel was unseaworthy and that the unseaworthiness was at least a concurrent cause of the loss. If the cargo owner establishes that, the carrier can still avoid liability if it shows that it exercised due diligence in an attempt to make the ship seaworthy. 46 U.C.C. § 1304(1); In re Grace Line Inc., No. 74-2657, slip op. at 3601, 3604 (2d Cir. May 19, 1975); Director General v. S.S. Maru, 459 F.2d 1370 (2d Cir.), cert. denied, 409 U.S. 1115 (1972); J. Gerber & Co. v. SS. SABINE HOWALDT, 437 F.2d 580, 588 (2d Cir. 1971); G. Gilmore & C. Black, Law of Admiralty § 3-43, at 183-85 (2d ed. 1975).

II.

Defendant urges that two statutory exceptions absolve it of liability. First, it suggests that the storm encountered by the ANTONIO DEMADES in the North Pacific was so severe that it constituted a peril of the sea.

See 46 U.S.C. 1304(2)(c). Second, it argues that the loss was due to an act by, or the neclect of, the master in the navigation or management of the ship. See 46 U.S.C. 1304(2)(a).

A. PERIL OF THE SEA

The Court does not believe that the storm encountered by the ANTONIO DEMADES was a peril of the sea. The evidence indicated that storms such as the one involved here were common occurrences during the month of February in this area of the North Pacific. Indeed, at trial

defendant's expert meteomlogist testified that this storm was not even the worst storm of that month. Of course, the fact that such a storm should have been anticipated does not mean that the storm cannot have been a peril of the sea. However, in this case the court does not believe that the winds and sea encountered by the ANTONIO DEMADES were of such magnitude to constitute a peril of the sea.

Each side called an expert meteopologist who prepared exhibits showing the wind, sea, and swell conditions in the area of the North Pacific where the ANTONIO DEMADES sank. These exhibits were based on weather data that consisted largely of readings taken by other ships in the general vicinity of the ANTONIO DEMADES. According to custom, these readings were taken every six hours. Thus, the weather data most relevant to the conditions faced by the ANTONIO DEMADES when the hatch gave way at 1400 hours on February 6, 1970, were the readings taken at 1100 hours and 1700 hours on that date.

The two experts (Robert Raguso for the plaintiff and William Kaciak for the defendant) offered conflicting versions of the weather faced by the ANTONIO DEMADES at both 1100 hours and 1700 hours. Much of this difference can be explained by two factors. First, the two experts placed the ship in different positions. Kaciak assumed that the ship was in the same location (i.e., the S.O.S. position) at 1100, 1700, 2300 hours on February 6 and 0500 hours on February 7 while Rigus assumed that the ship

gradually reached the S.O.S. position from points to the southeast. Second, Kaciak erred when he plotted the position of the ship. His exhibits indicate that he meant to place the ship at 33°15 N, 157°30 E, but close examination of the exhibits he prepared shows that he mistakenly placed the ship about 20 minutes to the north of that location.

In Raguso's opinion, at 1100 hours the ANTONIO DEMADES was encountering sustained winds from the west northwest of 40-45 knots (Beaufort force 8-9) and seas of 15 feet from the same direction. Kaicak thought that the ship encountered winds of 50 knots (force 10) and seas of 16 feet. If the ANTONIO DEMADES had been correctly plotted on Kaciak's chart, it appears that the ship would be experiencing sustained winds of about 47-48 knots (highest force 9 - lowest force 10) and seas of about 15 feet. At 1700 hours Raguso thought that the winds were at 40 knots (force 8) and that the seas were at 15 feet. Kaicak testified that the winds were at 50 knots and the seas at 26 feet. Kaciak's chart (corrected for the plotting error) shows winds of 47-48 knots and seas of 19 feet. Second Officer Gregos stated in his deposition that the wind was blowing at about force 9-10 while he was on the bridge from 1200 hours to 1600 hours.

While no one will ever know exactly where the ship was at 1100 and 1700 hours on May 6, the court finds that the positions assumed by Raguso are more accurate than those assumed by Kacjak. It seems unlikely that the

ship made no headway in the 18 hours preceding the sending of the S.O.S. While it is true that the ship reversed can be between 1400 and 1700 hours on F bruary 6, Gregos testified that the ship's speed during that period was about 30-50 RPMs while its speed in the other direction prior to 1400 hours and subsequent to 1700 hours was 80 'RPMs. Thus, the court finds that Raguso's estimate of the weather faced by the ANTONIO DEMADES to be more accurate, during and concludes that the period of time when the No. 1 hatch filed the ANTONIO DEMADES aid not encounter sustained winds in excess of the upper extent of force 9. It should be noted that even if defendant's evidence was accepted, the winds would only be at the lowest levels of force 10. Moreover, the seas found by both Raguso (15 feet) and Kaciak (15-19 feet) are within the range of normal

9 winds constitute a peril of the sea. I do not think
that they do in the circumstances of this case. While it
probably
is/impossible to define precisely the term "peril of the sea,"
in J. Gerber & Co. v. S.S. SABINE HOWALDT, 437 F.2d 580,
594-97 (2d Cir. 1971), Judge Anderson, after a comprehensive
review of the cases that have attempted to define and
apply the phrase, concluded that "[t]here are, however,
few cases in which the winds are force 9 or below (i.e.,
54 land miles per hour or 47 knots) in which there has been
found to have been a peril of the sea." 437 F.2d at 596.

expectation for force, 9 winds.

The winds encountered by the ANTONIO DEMADES were at most on the order of 47-48 knots. Under Judge Anderson's analysis these winds would not be such as to

constitute a peril of the sea in the usual case.

This result seems especially appropriate since none of the special circumstances discussed in the SABINE HOWALDT are present in this case. Thus, there is no reason to make it one of the rare exceptions to the general rule. The evidence indicated that the ANTONIO DEMADES did not encounter cross seas. (A cross sea occurs when the swell and sea are coming in different directions by 45° or more). At most times the seas and swell encountered by the ANTONIO DEMADES came from the same direction and during the short period of time in which there was some divergence in direction, it was only bout 22-1/20. There was no indication that the ship was being buffetted about unduly in the storm for a long period of time. Indeed, the hatch failure occurred soon after the storm commenced. It appears that the ship was able to steer a steady course into the storm. Moreover, it does not appear that the wave that broke the hatch cover was abnormally large. There were many other ships in this storm, some in areas where the storm was worse, yet none of them sank.

Thus, the court concludes that the factors and cases discussed in the SABINE HOWALDT opinion support rejection of defendant's peril-of-the-sea defense. Defendant did not satisfy its burden of establishing such a defense by a preponderance of the evidence, especially since its principal witness made erroneous assumptions concerning the location of the ship and incorrectly plotted the ship when the performed his analysis.

Defendant next claims that it should be absolved of any liability because, it asserts, the sinking of the ship was due to the negligence of the master in deciding to turn back into the teeth of the storm at 1700 hours on February 6 instead of continuing downwind until the storm subsided.

While it is impossible to know what would have happened had the master continued downwind, all of the evidence at trial indicated that the ship would have survived longer. When the hatch broke, it was impossible for the crew to inspect the damage because the ship was heading into the storm and the front of the ship was literally awash. However, when the master changed course and turned downwind into the storm, he was not only able to lead a party forward to inspect the damage, but they remained forward for an hour or two. Thus, the direction the ship was going clearly had a considerable impact on the extent to which the front of the ship was exposed to the sea and to direct wave action.

It is clear that the ship would not have sunk if only No. 1 hold filled with water. The crucial question thus becomes - what effect on progressive flooding would going into the wind as opposed to sailing downwind have had. As indicated later, the court finds the opinion of defendant's naval architect Ganley as the most credible explanation of how the ship sunk. In his view, two of the more important factors in the progressive flooding were the direct wave

1 223

and unplugged ventilator pipes and the flooding of No. 2 cargo hold through leaks created bythe pressures placed on the No. 1 - No. 2 bulkhead by the water in No. 1 hold.

Had the ship been going downwind the direct wave action would have been much less (as evidenced by the fact that the master's party was able to go forward to inspect the heading hatch only when the ship was/downwind). Any progressive flooding that occurred because water entered the holds through openings in the deck (e.g., unplugged vents) would have been much less - both because it would be less likely that such vents would be broken off or become unplugged and because it would be less likely that water would enter those that had been unplugged or broken since some of them were located fairly high above deck level.

In addition, the action of the waves in rocking the ship would tend to spill some of the water out of No. 1 hold. Since the three-foot high coaming would offer more protection to that hold when the waves were striking the ship from the rear then when they were coming directly over the bow, less water would probably have remained in No. 1 hold. Also, to the extent that No. 1 hold was contributing to the flooding of other areas of the ship, there might be less flooding since No. 1 hold would have less water in it thereby reducing the pressure and the source for the flooding. Perhaps the difference in the rate of flooding would not have been great with respect to that caused by No. 1 hold, but as to any water entering through the ventilator pipes, etc. it seems that it would have made a considerable difference.

In any event, both experts, Ganley and Gilbert,

agreed that the progressive flooding would have occurred
more slowly if the ship had headed downwind. This difference
would
probably/ have been crucial. The log of the rescue ship
the M.S. CHILE MARU indicated that after the ANTONIO DEMADES
was abandoned the weather improved (e.g., the winds died
down to force 7). Plaintiff's meteorologist, Raguso, indicated
that by 1100 hours on February 8, the storm center had moved
far to the northeast and that it was weakening rapidly.
Kaicak testified that the storm lasted a little more than
24 hours after the hatch cover failed.

The ANTONIO DEMADES was not abandoned until 18 hours after the hatch cover failed. It appears that for most of that period of time (i.e., until the S.O.S. signal was sent), the master thought that the flooding situation was under control. If the master had remained on his downwind course, the flooding situation probably would have brought been under control. Had the ship continued downwind, both experts agree that it would have survived longer (since there would have been less progressive flooding). Thus, the longer she remained afloat the less additional water she would have taken and the more likely that her pumping efforts would have been successful and that repairs could have been attempted. The court concludes that Ganley was correct in saying that there would have been a good chance that the ship would not have sunk had the master not decided to sail back into the force of the storm.

The court concludes the casualty probably would not have occurred but for the error of the master in turning back into the storm. Thus, defendant met its burden of

establishing that it fell within an excepted clause of it Cogsa (i.e., 49 U.S.C. § 1304(2)(a)). Consequently,/becomes plaintiff's burden to establish that the ship was unseaworthy.

Plaintiff urges that the ship was unseaworthy for four reasons. First, it suggests that the ship had insufficient bunkers (fuel) to make the voyage from Panama to Japan; second, it asserts that the McGregor hatch cover on No. 1 hold had been improperly altered, thereby contributing to its failure; third, it argues that the occurrence of progressive flooding in No. 2 and No. 3 holds indicates that the ship was structurally unsound and that it had not been properly repaired after a prior casualty; and fourth, it claims that the ANTONIO DEMADES was overloaded. The court concludes that the plaintiff has failed to establish any one of these claims of unseaworthiness.

A. Insufficient Bunkers.

plaintiff suggests that the ANTONIO DEMADES was unseaworthy because it did not have sufficient fuel for a trip to Japan. Although it never made the argument explicit, it appears that plaintiff hoped by this contention to negate the negligence-of-the-master defense by arguing that the master had no choice but to continue on to Japan because he was short of fuel. Examination of the evidence does not support such a conclusion. According to the ship's agent's report, the ANTONIO DEMADES left Cristobal on the Atlantic side of the Panama Canal with approximately 1006 tons of intermediate fuel oil (IFO) (which is used in the main engines) and 124 tons of diesel fuel (which is used in the generators) on board. During her short layover in the Canal Zone and

her transit of the Canal, the ship probably used, at most,

14 tons of IFO and 2 tons of diesel. Thus, on leaving the

Pacific side of the Canal the ship had approximately 992

tons of IFO and 122 tons of diesel available for its voyage.

Some of this fuel may have been unusuable since it could

not be gotten out of the fuel tanks, but according to defendant's

expert master mariner, Capt. Fertig, this amount could be kept

at a minimum by applying heat to the tanks which would

prevent the fuel from forming a coating on the tank walls.

The distance from Panama to Japan by the great circle (shortest) route is 7,680 miles. The shortest distance to Japan from Panama which would avoid the winter zone (where the ship would be more severely restricted in the amount of cargo she could legally carry) was 7,850 miles. However, it appears that the actual route taken by the ship was not the shortest route, but was rather one which covered 8,075 miles.

The ANTONIO DEMADES had a maximum speed of 15 knots and maximum fuel consumption of 35 tons of IFO and 1-1/2 tons of diesel per day. It appears from the three weekly reports sent by the ship to its owners during the crossing of the Pacific that the average speed of the ship was 13.63 knots and that the average daily consumption of fuel was 34.66 tons.

Since the Master was undoubtedly aware of the route the vessel would take and of the fact that the vessel not performed had/and would not perform at maximum capacity, the relevant figures for the purpose of determining whether the bunkers were sufficient at the time the ship left Balboa,

J 26a

are a distance of 8075 miles, a speed of 13.63 knots, and fuel consumption rate of 34.66 tons per day.

At an average speed of 13.63 knots the ANTONIO DEMADES would take 24.68 days to go the 8,075 miles from Panama to Japan and would consume 855.4 tons of IFO and 37.0 tons of diesel fuel. If this amount is: increased by 20% to allow for the normal reserve that should be carried, the ANTONIO DEMADES should have left Panama with 1026.5 tons of IFO and 44.4 tons of diesel fuel. Thus, the ship's store of IFO was 34.5 tons short of what the Master should have taken on board at Panama. However, the ship had 77.6 more tons of diesel fuel than was required for the voyage. Since the diesel fuel could be used in the main engines with little difficulty (it could be mixed in with the IFO in gradually increasing proportions), the court concludes that the ANTONIO DEMADES left Panama with an excess plaintiff's expert mariner, Capt. of 43.1 tons of fuel over the 20% reserve that/Patterson testified was required by customary industry practice. The ship was not unseaworthy because of insufficient bunkers; it had a reserve fuel supply of about 25% when it sailed from In any event, the sufficiency of the fuel supply was not a factor in causing the loss of the ship. At the time of the casualty the ship had virtually all its reserve left and it was only 3 days from Japan.

B. McGregor Hatch Cover on No. 1 Hold.

The ANTONIO DEMADES had been stranded for eight days on Quita Suena Bank in the Caribbean in October-November 1968. In December, she entered drydock in Osaka, Japan, for inspection and repairs. The surveyor at the shipyard

indicated that the hatch covers and the top edge of hatch coamings of the holds were deformed. The repair bills show that one piece of the No. 1 hold hatch cover had been removed to the shop, faired, and refitted, and that the coamings had been repaired. Although the existence of such deformation of deck fittings indicated that the ship had been subjected to great stresses when it was grounded, there was no evidence to suggest that the repairs were inadequate. Significantly, if the repairs were done properly, plaintiff's expert naval architect, John Gilbert, testified that the hatch covers and coamings would have been restored to their original strength. The independent surveyor in Japan indicated in his reports and in his deposition that the reapirs were done properly. Gilbert testified that the repairs would have been much more costly in the United States. While this explains one cause of the demise of the American shipbuilding industry, it is not / of inadequate repairs in the aggregate, let alone inadequate repairs to the hatch covers and coamings.

There was testimony to the effect that overall deformation in the ship's hull probably occurred as a result of the grounding and that a transit would have been necessary and should have been used to determine if there was such hull deformation. It does not appear that a transit was used. However, this seems insignificant with respect to the seaworthiness of the hatch covers. While deformation of the hull might have caused the hatch covers to buckle at the time of the grounding, there was no evidence that the mere existence of deformation in the hull would cause any weakness

in hatch covers that had been refitted subsequent to the 9/deformation. Thus, the court concludes that plaintiff failed to carry its burden in attempting to prove that the hatch cover on No. 1 hold was inadequately repaired so that the vessel was unseaworthy.

Plaintiff also suggests that the vessel was unseaworthy because the hatch cover on No. 1 hold was altered in violation of American Bureau of Shipping rules that prohibit unauthorized structural modifications in a vessel. The plans of the ANTONIO DEMADES indicate that there were four sect is in the hatch cover of No. 1 hold and five sections in the covers for the other six holds. The shipyard's repair bill indicates there were only four sections in the No. 1 hold hatch cover, and there is no evidence that the cover was ever modified. Two of the surviving crewmen made statements that sections 4 and 5 of the hatch cover failed. Plaintiff urges the court to conclude from this that an unauthorized structural change was made in the vessel. The court finds, however, that the two men were confused and that it is likely that the sections of the hatch cover that failed - two end sections, which would have been numbers 4 and 5 on the other six hatch covers - were actually the third and fourth sections of the four-section hatch cover.

The court concludes thæ although the failure of the No. 1 hold hatch cover was unexplained, plaintiff has not established that it was due to improper repairs of prior damage or unauthorized structural modification. $\frac{10}{}$

C. Progressive Flooding.

The ANTONIO DEMADES would not have sunk if only

the No. 1 hold had filled with water. It was because of the progressive flooding of Nos. 2 and 3 holds, Nos. 2 and 3 double bottoms and other areas that the ship eventually went down. Plaintiff claims that the fact of progressive flooding shows that the vessel was unseaworthy because it was structurally unsound. First, plaintiff suggests that the failure to test the ship with a transit when it was repaired in 1968 meant that locked-/stresses caused by hull deformation might have been present and that these stresses might have so weakened the bulkheads between the holds that the ship should be considered unseaworthy. Second, plaintiff also contends that there might have been small hidden leaks in the bulkheads or double bottoms which could have been found by a hose test but which would not have been found by a visual inspection.

According to plaintiff's naval architect, Gilbert, many of the bulkheads and the double bottoms in the forward area of the ship were repaired. Omachi, the surveyor in Japan attending the repairs, testified in his deposition that hose tests were performed on the double bottoms and on the bulkheads between No. 1 and No. 2 holds as the repairs progressed.

In any event, Gilbert only speculated that damage to the bulkheads and the double bottoms might be a possible source of progressive flooding. He admitted that proepr repairs would restore the watertight integrity of these sections and there is no evidence that the repairs were inadequate. The surveyor, on the other hand, testified that they were adequate.

Even if it is assumed that no hose tests were conducted, the leaks that might be found in the bulkheads would be mere pinpricks since the bulkheads were visually inspected subsequent to the repairs by surveyors hired by cargo owners (who, of course, would be looking very carefully for any preexisting damage to the ship so as to prevent their employer from being blamed for it). I do not think that the existence of minute bulkhead leaks would establish that the vessel was unseaworthy. There was no evidence that the existence of pinprick-size holes would measurably reduce the strength of the bulkheads, and, in any event, it would seem that the pumps could easily handle the small amounts of water which would accumulate from such leakage.

Similarly the fact that a transit was not used does not establish that there was unrepaired hull deformation.

-in

However, even if there were locked/ stresses at the time

the ship left the shipyard, there was testimony by defendant's expert naval architect, Ganly, that these stresses would have been immediately noticeable or would have worked themselves out over time as the ship sailed the seas. At trial Ganly evidenced considerable familiarity with the concept of locked-in stresses and stated that the literature in the field supported his view. Gilbert, on the other hand, only testified that locked-in stresses could have caused the progressive flooding. He did not provide any evidence to show that locked-in stresses were ever present in the ship, let alone present at the time of sinking. Thus, it is concluded that there is no evidence that there were any locked-in stresses present in

the ANTONIO DEMADES which caused, or partially caused, the $\frac{11}{}$ casualty.

In all likelihood defendant's expert Ganly accurately described the way in which the ship sank. With No. 1 hold filled with water, the deck structures on the front part of the ship would be subjected to forces thich they were not normally exposed and which they were not designed to withstand. It is likely that the exposed parts of the ventilator pipes to the below deck areas would be swept away. Although some of the vents were plugged it is quite possible that prolonged direct wave action could dislodge the plugs. Thus, other areas in the forward area of the ship would start to fill (even if the bulkheads were watertight). In addition, as the ship pitched in the storm the sloshing of tons of water (and perhaps some scrap steel) back and forth in the No. 1 hold would subject the bulkhead to forces that it was not designed to withstand and might well result in some water getting into the adjacent hold.

The burden is on the plaintiff to show that unrepaired structural defects caused the vessel to be unseaworthy and in the court's opinion, it has failed to establish this. It is more likely that the ship sank as described by Ganly, whose description of the vessel's sinking did not depend on unproven structural defects, but which assumed that the ship was sound.

D. Overloading.

Finally, plaintiffs claim that the ship was unseaworthy because it was overloaded in violation of the

International Loadline Convention and that the overloading was a contributory cause of the casualty. See The Smith Voyager, 439 F.2d 109, 113 (2d Cir. 1971). At the outset the court notes that there was no incentive on the part of the shipowner to overload the ship as the charter provided for a lump-sum payment and not a sum dependant on the amount of cargo carried.

Determination of this claim is complicated by substantial inconsistencies in the measured drafts of the vessel that were taken at various times in her voyage. Four measured drafts are before the court. According to the draft statements prepared by the Master and surveyor at Boston the ship had a mean corrected draft of 35 feet 6-1/2 inches. The draft statement of the survey/appears to have been prepared with considerable care. It is far the most complete evidence of the ship's draft and the court finds that it can be taken as an accurate record of the ship's draft when it left Boston.

The second draft figure is provided in the Ship's Information and Quarantine Declaration filed with the Panama Canal authorities on arrival in Cristobal and prior to bunkering. That statement indicates an uncorrected draft of 34 feet six inches forward and 35 feet three inches aft. Plaintiff's expert Gilbert used these figures and calculated that the corrected draft was 35 feet two and six-tenths inches. Gilbert also started with the Boston draft and adjusted it in light of the ship's expected consumption of fuel and water between Boston and Panama, in order to calculate on arrival draft based on the Boston draft. He found that his calculated

arrival draft was basically equivalent to the measured arrival draft. Based on the amount of fuel and water loaded at Panama, Gilbert calculated that the ANTONIO DEMADES was not overloaded when she left Panama, that she was five the summer zone inches below her marks on entering/and that she was 3.265 inches over her marks at the time of the casualty.

The third recorded draft is contained in the Ship's Condition Report prepared by the Panama Canal pilot. This report, if correct, would have indicated that the ship was one and a half feet over her tropical marks when leaving Panama and more than a foot over her marks at the time of the casualty. Gilbert indicated, however, that he did not consider this report because it was so far out of line with the other two. The court agrees with him and finds that it does not accurately reflect the ship's draft.

Finally, there is a letter from the Port Captain at Cristobal (received after trial but offered sight unseen by defendant and received into evidence) which states that a recorded (uncorrected) draft taken when the ANTONIO DEMADES was at Cristobal shows a draft of 35 feet six inches forward and if 37 feet aft. Plaintiff argues that/the same sag correction is used as was used at Boston then the corrected mean draft was 36 feet 6-5/8 inches or 5-1/2 inches over Gilbert's calculated draft. Plaintiff argues that this 5-1/2 inches should be added to Gilbert's calculations so that the ship was 2 inches below her marks both when she left Panama and at the time of the casualty. The court disagrees.

It is necessary to choose between the careful draft calculation made at Boston which (according to Gilbert)

was consistent with the arrival draft at Cristobal and the Port Captain's letter which does not even attach a copy of the draft measurement to which it refers. Gilbert's calculations of the draft are more believable. He started with the arrival draft which was consistent withthe Boston draft and he considered what weight the ship took on at Cristobal. If one were to accept the plaintiff's interpretation of draft in the Port Captain's letter, it would be necessary to account for an additional 500 tons of cargo or fuel (the additional weight represented by a difference of 5-1/2 inches in draft) and there is no explanation offered. Moreover, there are several reasons why the plaintiff's interpretation of the Port Captain's draft may be inaccurate. First, it assumes that the sag correction used in Boston should be used in Cristobal even though the fuel taken on at Cristobal was loaded mainly in the fore and aft sections of the ship thus tending to reduce sag. Second, the draft was taken in Cristobal Harbor and that harbor has a lower salinity than regular sea water because of the fresh water released when the Panama Canal locks are emptied into it. Fresh water is less buoyant than salt water and a correction must be made in order to adjust draft measurements made in fresh water to those permitted by the load line certificate issued under the International Load Line Convention.

In sum, the Boston departure and Cristobal arrival drafts seem to be accurate. The draft referred to in the Port Captain's letter is inconsistent with those drafts and

35a with the amount of fuel and water actually taken on board at Cristobal. Thus, the court credits the Boston draft and the arrival draft as accurate and considers the other two drafts to be inaccurate. The court concludes, as did. Gilbert and Patterson (both plaintiff's experts), that the ship was not overloaded when she left Panama and was not overloaded when she sank. The ANTONIO DEMADES was not unseaworthy because of overloading.

Since the defendant has established that it falls within an exception under Cogsa, 46 U.S.C. § 1304(2)(a), since the plaintiff has failed to establish that the ship was unseaworthy, and since in any event the defendant exercised due diligence to provide a seaworthy ship, the complaint is dismissed.

This opinion constitutes the court's findings of fact and conclusions of law. Rule 52(a), F.R.Civ.P. SO ORDERED:

> United States Circuit Judge Sitting by designation.

New York, New York Dated: June 5th , 1975.

Footnotes

1/
The Beaufort Scale is as follows:

Beaufort Number	Wind Speed Knots	Miles per Hour
0	.< 1	< 1
1	1-3	1-3
, 2	4-6	4-7
3	7-10	8-12
4	11-16	13-18
5	17-21	19-24
6	22-27	25-31
7	28-33	32-38
. 8	34-40	39-46
9	41-47	47-54
10	48-55	55-63
11	56-63	64-72
, 12-17	64-118	73-136

Defendant also relies on the U.S.C. § 1304(2)(q) which is a general exception for casualties caused by events not within the control of the carrier or its agents or due to its or their negligence. Defendant does not stress this exception in its argument and the court has not considered it.

See, however, note 17 infra.

See note 4 infra for discussion of Gregos' reliability as an observer.

4/ Second Officer Gregos (who had only 5 years of sea experience) signed a statement on arrival in Japan in which he said that the waves the ship was encountering at 1200 hours on February 6 were about 25 feet high.

Immediately prior to the first indication that something was wrong with the No. 1 hatch, Gregos said that the ship encountered some waves about 30 feet high—not had been much different than what Gregos had said the ship, encountering for the two hours prior to the hatch failure.

Gregos' estimation of the wave heights at 1200 hours is considerably higher than that made by both Raguso and Kaciak (even without considering Kaciak's plotting error). It is unclear whether this is due to a tendency to exaggerate on Gregos' part, his lack of extensive ocean-going experience, his failure to distinguish components of sea and swell, or error on the part of both experts. The court suspects that one of the first three possibilities explains the disparity.

in wave height Gregos indicated a greater disparity/in his deposition, but as that was taken over 4 years after the event his statement in Japan is probably more accurate.

5/ Defendant offered into evidence the log book of the M.S. CHILE MARU which was the first ship to respond to the S.O.S. sent out by the ANTONIO DEMADES. That log indicated that the CHILE MARU experienced winds of force 10 and 11 between 1200 and 1600 hours on February 6. These figures are not inconsistent with the court's conclusion since the ship was located to the northeast of the ANTONIO DEMADES and was closer to the severest area of the storm.

6/ When the storm struck the ship was about 3 days sailing time from Japan. The master had sufficient reserves of fuel (approximately 5-6 days worth) so that he was not forced to head back into the storm because of an inadequate fuel supply. See part IIIA.

2/ Since the court ultimately concludes that the ship was seaworthy and that the defendant was sufficiently diligent in ensuring that the ship was seaworthy, this shift of the burden of proof is not crucial in this case although it would be in many cases.

3/

Capt. Patterson claimed that 5% of the fuel would have been unusable because that amount would coat the walls of the fuel tanks or be unusable sludge. It is apparently not industry practice to make this deduction, and as noted earlier, Capt. Fertig testified that virtually all of the fuel would be usable.

In any event, even allowing a 5% deduction for unusable fuel the ship still had a reserve of almost 20%.

As indicated in the next section, the court does not believe that any locked-in stresses resulting from the grounding were present when the ANTONIO DEMADES met its end in February.

The finding that the ship did not encounter a peril of the sea is not inconsistent with the finding that the No. 1 hold hatch cover was not structurally unsound. Why the cover gave way will never be known. The findings the court has made primarily reflect that the party with the burden of proof could not demonstrate that its theory of why the hatch collapsed was correct.

In any event, with regard to the hatch covers there is no doubt that defendant exercised due diligence to ensure that they were seaworthy. It had them repaired

and was told that the repairs were satisfactory. Subsequent surveys by cargo owners (who would be particularly interested in the hatches) suggested no problems existed with respect to No. 1 hatch. The ship's crew checked the hatches daily (weather permitting) and no problems with the No. 1 hatch were encountered.

Due diligence requires that the ship owner take "normal precautions" to ensure that his ship is seaworthy. Peter Paul Inc. v. Rederi A/B Pulp, 258 F.2d 901 (2d Cir. 1958). It is essentially the same as exercising reasonable or ordinary care. Here that standard was satisfied. Defendant had the ship repaired and the independent surveyor certified that the repairs were complete and adequate and recommended that the vessel's classification be maintained. Subsequent surveys by cargo owners disclosed no defects. The shipowner could not reasonably have been expected to do more.

11/ Plaintiff also attempted to establish the likelihood of the existence of stresses in the hull by claiming that the ANTONIO DEMADES lacked a proper loading manual and therefore might have been improperly loaded. Of course, whatever information the ship carried is at the bottom of the Pacific. However, it appears to the court that in all likelihood the ship did have a proper loading manual on board.

At his deposition, the Second Officer indicated that there was a loading manual which was on board along with other tables. Plaintiff could not show that these documents were inadequate. Indeed, the fact that the ship's load line certificate was regularly extended and approved suggests that there was adequate loading information on board the ship, since the presence of such information is a prerequisite for an extension of the certificate. In any event, there was testimony his that an experienced master could load ship without a loading manual and that the information necessary to load the ship properly could be calculated from the information in the ship's original loading manual.

Moreover, no evidence was produced to show that the ship was improperly loaded.

The defendant was duly diligent with respect to ensuring that the vessel was structurally sound.

All ships have some locked-in stresses. While a transit might have disclosed that the ANTONIO DEMADES had overall hull deformation, any locked-in stresses of an unacceptable nature would have been noticeable when the ship left the shipyard or they would have worked themselves out well before this casualty.

Thus the failure to use a transit in Japan had no relevance to the seaworthiness of this vessel when it departed on this voyage because at that time there were no unacceptable locked-in stresses.

It appears that the proper tests (i.e., hose tests) were performed on the bulkheads. In any event, the later visual surveys indicate that no significant leaks existed. Thus, the defendant exercised sufficient due diligence to meet his obligation to provide a seaworthy ship. See note 10 supra.

13/ According to its loadline certificate, the maximum allowable draft for the ANTONIO DEMADES in a summer zone (which was where the sinking occurred) was 35 feet 7-5/8 inches. Its maximum allowable draft in a tropical zone (which would include Panama) was 36 feet 4-5/8 inches.

14/ The mean corrected draft is the average of the forward and aft drafts corrected for such things as sag. Sag would be present when the ship is loaded more heavily in the middle than at the ends.

15/ A ship is "below her marks" when her Plimsoll is submerged. Such an occurence indicates that the ship is overloaded. The history of the Plimsoll line is traced by Richard H. Field in Frankfurter, J., concurring, 71 Harv. L. Rev. 77 (1957):

Sam Plimsoll was the seaman's friend, A Liberal M.P.; "The day of 'coffinships' must end," He swore repeatedly.

"I'm sick to death of sophistry,
In case-by-case decision,
I want responsibility
Determined with precision.

"We need a bright clear line to show The safety mark in loading, So that a British tar can go To sea without foreboding." Sam Plimsoll was so eloquent
That Parliament gave heed,
And sought this evil to prevent,
With all deliberate speed.

With fervent popular support
It passed the law he urged,
Forbidding ships to sail from port
With Plimsoll's line submerged.

See Act to Amend the Merchant Shipping Acts, 1876,

39 & 40 Vict. c. 80, § 28. The occasion for Professor

Field's poem was the penetration of the Plimsoll line
into notions of constitutional due process. See, e.g.,

Fikes v. Alabama, 352 U.S. 191, 199 (1957) (Frankfurter,

J., concurring) ("No single one of these circumstances
alone would in my opinion justify a reversal. I cannot
escape the conclusion, however, that in combination
they bring the result below the Plimsoll line of 'due
process.'")

16/ The fact that the ANTONIO DEMADES may have been a few inches below her marks when it entered the summer zone some three weeks prior to the accident could not have been a proximate cause of the sinking.

explain the cause of the hatch failure, the court could conclude that the defendant falls within the exception to liability contained in 46 U.S.C. § 1304 (2)(q): "Neither the carrier nor the ship shall be responsible for loss or damage arising from or resulting from - ... (q) any other cause arising without the actual fault and privity of the carrier and without the fault or neglect of the agents or servants of the carrier would have to prove that it and its agents were without fault. It appears to the court this is essentially equivalent to proving the exercise of due diligence to ensure seaworthiness.

because to do so would require a finding inconsistent with its conclusion that the cause of the sinking was the neglect of the master. However, had the court not reached that conclusion, it would have reached the same result on the question of liability by reliance on section 1304(2)(q) or by reliance on the court's conclusion (see notes 10 and 12) that due diligence was exercised to provide a seaworthy vessel.

JUDGMENT

united States District Court for the

SOUTHERN DISTRICT OF NEW Y

YAWATA IRON & STEEL CO., LTD., Plaintiff

ANTHONY SHIPPING CO., LAD., Defendant

June , 19 75, against plaintiff
the clerk is requested to tax the following as costs:

BILLOFCOSTS

BILL OF COSTS

DO NOT COMMETSEM FOR HE

CIVIL ACTION FILE No.

71 CIV. 456 JEL

lith

S

day of

Fees of the clerk

Fees of the marshal

Fees of the court reporter for all or any part of the transcript necessarily obtained for use in the case

Fees and disbursements for printing

Fees for witnesses (itemized on reverse side)

Fees for exemplification and copies of papers necessarily obtained for use in case

Docket fees under 28 U.S.C. 1923

Costs incident to taking of depositions

Cost- are shown on -Mandate- of Cour -of-Appeals-Other Costs (Please-Mandate)

Transcript of deposition testimony admitted

in evidence:

 M.Gregos
 \$230.50

 N.Kapantais
 111.25

 N.Ntaginis
 98.75

 Omachi-Allison-Morris
 107.00

 \$547.50

Interpreter for

N. Kapantais and N. Ntaginis 20

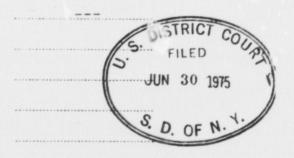
\$747.50

Total

588.38 comment to

40.00

747-50



\$ 6.980.37-1,620.58 , ss:

State of

MEW YORK

judglin.

County of NEW YORK do hereby'swear that the DONALD B. ALLEN foregoing costs are correct and were necessarily incurred in this action and that the services for which fees have been charged were actually and necassarily performed. A copy hereof was this day mailed to BIGHAM, ENGLAR, JONES & HOUSTON, Attys.for Plaintiff with postage fully prepaid thereon. Please take notice that I will appear before the Clerk who will tax said costs on . 19 75 at 10:00 A.M. June 25 Attorney for Deft. By Subscribed and sworn to before me this 17th day of June Milael J. inech New York Notary Public State of New York
No. 03 4516595
Qualified in Bronx County Costs are hereby taxed in the amount of \$ /, \(\frac{1}{2} \), \(\frac{1}{2} \), and that amount included in the judgment ice re-A arjund ? Burghandt The St. Condia NOTE: SEE REVERSE SIDE FOR AUTHORITIES ON TAXING COSTS 30/75 - Bill of Costs as taked in the sum of \$ 1,620.88., in form of defendant, and added to the

Raymond F. Burghands

Witness Fees (computation, cf. 28 U. S. C. 1821 for statutory fees)

	Witness Fees (computation, cf. 28 U. S. C. 1821 for statutory Icea)							
	Name and Residence	AL:	Total	Suin	gatal	ton	rate 1	Total Cost
		Days	Cost	Daya	(Philos.	Cost	inch Witness
	Edward F. Ganly Ganly-Briggs, Inc. 275 Hillside Ave. Williston Park, N.Y. 11596	1	20.00	-	-	50	5.00	2 5.00 /
	N. Fountoukidis c/o American Bureau of Shipping 45 Broad St. New York, N.Y. 10004	1 .	20.00	-	16,100	-	1 25-7	20.00 /
	M. Gregos 3768 Jefferson St. Gary, Indiana (Deposition at N.Y.	-t-	20.00	?	32.00	2000	2011. 01	1.60 21
	A. Omachi 21 F Newton Tower Evelyn Road Singapore 11 (Deposition at Vancouver)	ì	20.60		112.00	Ging/ Van- couve	2450.U r	2,582.00
000	Art.)				
	John R. Blackeby 10 Harmon Drive Huntington, N.Y.	1	20.00	-		-	- /	. 20.00
	Arthur H. Fertig 19 West St. New York, N.Y.	.1	20:00	-	- '	-		20.00
	C. Prapopulos Maritime Brokers, Inc. One Battery Park Plaza New York, N.Y. 10004	1	20.00	-	-	_	-	20.00
40.	W. Kaciak Weather Routing Inc. 1415 Boston Post Rd.		20.00					20.00
	Larchmont, N.Y. 10538	1	20.00	-	1	-	-	20.00
	Thomas A. Wielson Toplis & Harding, Inc. 111 John St. New York, N.Y. 10038	1	20.00	-	-	-	-	20.00
	N. Ntaginis Alatsaton 5 Aghios Ionnis Rentis Piraeus, Greece (Deposition at New York)	1	20.00	3	48.00	Peki	ng/ 1430.2	Hollow Barre

N. Kapantais
Sixiada
Chios, Greece (Deposition at
New York)
Reginald J.Allison
3258 W. 35th Ave.
Vancouver, B.C. Canada
(Deposition at Vancouver)
T. Morris:
8174 Patterson Ave.
Burnaby, B.C. Canada
(Deposition at Vancouver)

1 20.00	3 48.00	Pirabus/ NY 733.50	-dintleved
1 20.00			20.00
20.00			20.00
		30131	145.00

1	mb1m
2	UNITED STATES DISTRICT COURT
3	SOUTHERN DISTRICT OF NEW YORK
4	x
5	YAWATA IRON & STEEL CO., LTD., :
j	Plaintiff, :
7	-against- : 71 Civ. 456
8	ANTHONY SHIPPING CO., LTD., :
9	Defendant. :
10	ж
11	
12	Before:
13	Hon. J. Edward Lumbard,
14	Circuit Judge
15	New York, New York March 4, 1975 - 10 a.m.
16	APPEARANCES:
17	BIGHAM, ENGLAR, JONES & HOUSTON, ESQS.
18	Attorneys for Plaintiff 99 John Street, New York
19	By: DOUGLAS A. JACOBSEN, ESQ., -and-
20	FRANCIS O'REGAN, ESQ., of Counsel
21	CICHANOWICZ & CALLAN, ESQS. Attorneys for Defendant
22	80 Broad Street New York, New York 10004
23	By: DONALD B. ALLEN, ESQ., of Counsel
24	

	3
1	mb1m
2	and defendant's counsel and was submitted by Magistrate Raby,
3	but I don't believe it was ever signed by Judge Griesa; so
4	we listed it as an exhibit.
5	THE COURT: I have a pretrial order here that is
6	signed by Judge Griesa.
7	MR. O'REGAN: We were not so informed.
8	THE COURT: Dated September 3rd, 1974.
9	MR. JACOBSEN: I see. We did not know it had been
10	signed.
11	THE COURT: Would you care to see it?
12	MR. JACOBSEN: No, sir. It's the same one that
13	was submitted.
14	Then we would like to call our first witness, your
15	Honor, Mr. Raguso, and he will be examined by Mr. O'Regan.
16	
17	ROBERT RAGUSO, called as a witness by
18	the plaintiff, being first duly sworn, testified
19	as follows:
20	DIRECT EXAMINATION
21	BY MR. O'REGAN:
22	Q Mr. Raguso, what is your profession?
22	A Sir, I am a professional marine meteorologist and
2	a transportation consultant.

By whom are you presently employed?

Q

25

of New York and Department of Agriculture Graduate School in

24

25

Washington, D.C.

I have 33 credit points in meteorology and oceanography. I have a Master's degree from the State University
of New York Maritime College, this is in 1973, and my degree
is in transportation management. My specialty of study at
that institution was the effect of weather on the marine
transportation industry of the United States.

Q Would you please tell us about your professional experience before joining Bendix Corporation as manager of its marine science services.

A Yes, sir. After graduation from Kings Point, I sailed for several years as a licensed deck officer aboard various vessels in the American Merchant Marine, cargo vessels and passenger vessels in all oceans of the world, in all seasons.

I joined a weather consulting company called
Weather Routing, Inc. and served for four and a half years
as a marine meteorologist and ship routing consultant.

I engaged in weather forecasting and consulting work there, and special studies having to do with vessel performance in weather on the oceans.

After my time at Weather Routing, Inc., I joined
Melpar, Inc. in Washington, D.C. and served as a professional
meteorologist and was in charge of the weather center which
was a department specializing in weather forecasting and

mb 1m 1 Raguso-direct 6 consulting for industrial use in the greater Washington, D.C. 2 3 area. In addition I did special research for meteorolog-5 ical and environmental conditions in remote areas and special studies on governmental contracts for Melpar. 6 What would you say your main specialty is in your 8 profession? 9 It's marine meteorology. 10 Are you a member of any professional societies? Yes, sir, I am. 11 12 Which ones? 13 I am a professional member of the American Meteor-14 ological Society, and I have served three years now as a member of their eight-man committee on industrial meteorology. 15 16 I am a member of the Institute of Navigation. 17 I am a member of the Society of Naval Architects and Marine Engineers. 18 19 I am a member of the Marine Technology Society. 20 Have you written any professional articles? Yes, sir, I have published several technical papers. 21 22 The most recent include "The Use of Satellites for Weather

at West Point in 1973.

Forecasting and Consulting to the Marine Industries." This

was published at the Institute of Navigation annual meeting

23

24

. 21

I published a paper on "The Effect of Weather on Marine Time Charter Operations." This was presented at the Mariport '73.

I presented a paper on "The Operational Effect and Economic Effects of Weather on Marine Transportation Industry of the United States." This is my thesis topic, and we presented this to several of our customers as well.

We have written two other technical papers that have been published in the Bendix Technical Journal, one having to do with "Weather Satellites and Their Use on Ship Routing," and the other "The Use of Weather Information for Oil Pollution Control."

MR. O'REGAN: Your Honor, we have prepared a resume which supplements the testimony today and for the convenience of the Court I would like to introduce this into evidence.

It's been marked Exhibit 51 for identification.

MR. ALLEN: I don't see the need of it after this lengthy testimony.

THE COURT: No, you have brought all this out, haven't you?

MR. O'REGAN: Most of it. There are a few other items here but it isn't necessary.

THE COURT: Is there any objection?

MR. ALLEN: My objection is I haven't read it and

4

5

6

7

8

I don't know what it contains. I think --

THE COURT: Take a look at it.

Has this been prepared by the witness?

MR. O'REGAN: Yes, sir, it has.

MR. ALLEN: To the extent that it merely summarizes his testimony, I have no objection.

THE COURT: Very well, it will be received.

(Plaintiff's Exhibit 51 for identification received in evidence.)

BY MR. O'REGAN:

Q Mr. Raguso, is it safe to say that your experience in the weather field has been mainly concentrated in the marine area?

A Yes, sir.

Q Have you found that your seagoing experience has been of any benefit to you in the field of marine meteorology?

A Yes, sir. As a licensed officer, I had collateral duties on board ship, and these included being the weather officer on board the vessels, and collecting and analyzing charts and preparing the information for the captain's decision en route.

It allowed for a rounded background, practical as well as the theoretical approach to the marine sciences.

O' Were you the weather officer on each of the vessels

CXX

11

12

13

10

14

16

15

17 18

19

20

21

22

23

24

on which you serve?

- A Yes, sir, I was.
- Q Mr. Raguso, are you familiar with the subject matter of this suit?

A Yes; yes, sir. I believe it was the ANTONIOS DEMADES and it's the eventual sinking in the North Pacific in February of 1970.

Q At my request did you make a study and analysis of the weather and sea conditions experienced by the ANTONIOS DEMADES from the time she sailed from Boston on January 6, 1970 until she sank on February 7, 1970?

A Yes, sir, I did.

Q Did you also examine the weather and sea conditions experienced by the ANTONIOS DEMADES between January 6 and February 7, 1970 to determine whether these conditions were abnormal or whether they were expectable and to be anticipated for the waters sailed upon at this particular time of the year?

A Yes, sir, I did.

Q Are you familiar with this document which has been marked 51-0 for identification?

A Yes, it's the Beaufort table from Bowditch, from the American Practical Navigator Bowditch.

Q You recognize this as being the Beaufort Scale?

۵)

25

Raguso-direct

12

MR. ALLEN: No objection.

(Plaintiff's Exhibit 50- Λ for identification received in evidence.)

Q Mr. Raguso, I show you Exhibit 50-B, and ask you to look at it, and would you tell us, are those the pages you used from the Climatological and Oceanographic Atlas for the North Pacific Ocean in making your study?

A Yes; yes, they are.

MR. O'REGAN: I offer this in evidence.

MR. ALLEN: No objection.

(Plaintiff's Exhibit 50-B for identification received in evidence.)

Q Did you also use Weather Bureau records in making your analysis?

A Yes, sir. We used two sets of Weather Bureau official records. The first contained certified copies of the weather charts, the official and final analysis charts made by the National Meteorological Center in Suitland, Maryland, and the second set contained certified copies of the weather logs for vessels which were on the ocean at the time and had later sent in their weather logs to our government.

Mr. Raguso, would you explain to the Court how you made your study for the ANTONIOS DEMADES as she proceeded

- Q What is the difference between sea -- which I understand is the same as waves; is that correct?
 - A It is the wind wave, the sea, yes, sir.
 - Q What is the difference between sea and swell?

A The sea is the immediate response of the ocean state to the effect of wind on it. It is the relationship of the friction effect bringing the state of the ocean to a series of wavelets or turbulence, if you will. It is the immediate effect of the wind on the ocean state.

Swell is considered the effect of a storm or the wind on the state of the ocean either much before the fact or much after the fact. It is the effect, the residual effect, if you will, of a storm passing the area, and the state of the ocean not calming down yet; the continuity of the waves in a slow easing back to normal.

Q Would you please explain how you made your study for the ANTONIOS DEMADES proceeding from Panama to the time she sank.

A Yes, sir. We noted in the second officer's statement the departure from Panama. We noted also the fact that the vessel passed at least 60 miles off the Hawaiian Islands and 60 miles off Midway, and we noted a position from the second officer's statement where the vessel crossed the Date Line on or about the 1st of February, 1970 at the latitude

1

2

4

5

6

7

8

9

10

11 12

14

15

16

17

18

19 XXX

20

21

22

23

24

25

Raguso-direct

of 30 degrees north.

We also noted a fixed position for the 4th at local noon, and eventually the SOS position I believe on or about the 7th of February.

From these particular positions at the date and times that were involved, we located these positions on a Mercator projection, and dead reckoned daily local noon positions to fit this plot.

O I show you Exhibit 51-1. Can you identify that for us?

Yes, sir, this is the reconstruction of the track with entries of the weather, the wind, sea and swell conditions as they were gleaned from the official data.

MR. O'REGAN: I offer it in evidence.

MR. ALLEN: If it is clearly understood that this is an estimated track and not the vessel's actual track, I have no objection.

(Plaintiff's Exhibit 51-D for identification received in evidence.)

What else did you do in studying this track of the ANTONIOS DEMADES?

We plotted the weather conditions as we saw them from the official reference material, namely, the final analysis maps for the dates and times in question, and noted

that the meteorological events were basically uneventful up through the corssing of the Date Line; so at that point we took a microplet for a closer examination of the vessel's track from the Date Line on toward the SOS of the 7th.

O I show you Exhibit 51-F. Can you identify that for us?

A Yes, sir. This is the microplot of the track from the crossing of the Date Line through February 7.

O What do you mean by microplot?

A It's a larger view. The other chart was very small scale, so we wanted to blow up the scale to get a better look at the positions of the vessel at least twice a day and possibly even more than that, as opposed to the once daily which was used for the overall reconstruction.

Q And the course you used on your microplot, where did you obtain that information from?

A There was reference in the mate's statement that the heading was set at 278 degrees on the compass, and this was found to fit very nicely with the reconstructed track, especially the position off Midway and the local noon on the 4th.

MR. O'REGAN: I offer 51-F in evidence.

MR. ALLEN: Well, again, your Honor, there are two objections. One is that it is clearly an estimate of where

was 976 millibars.

about 25 knots, so that by the 6th at eleven o'clock local time, ship's time, the deepening low was centered at 41.5 north and 160.5 east; some 540 miles to the north-northeast of the ANTONIOS DEMADES. The central pressure at this time

By the 7th at 1100 local ship's time, the storm was centered vicinity 48 north and 175 east, about 1200 miles to the northeast of the vessel; and central pressure now was at 956 millibars.

By the 8th at eleven o'clock local time, for the longitude of this vessel, the storm was now located in the vicinity 50 north and 175 west, and had a central pressure of 957 millibars, and now commenced to fill or to weaken rapidly as it moved northward over the Aleutians and into the Bering Sea.

Q Did you make a microanalysis study of the weather including the wind, the seas, and the swell, which the ANTONIOS PEMADES encountered from February the 5th to February the 7th, 1970 as a result of this storm?

A Yes, yes, I did, sir.

Q I show you exhibits marked 51-G through 51-L for identification, and ask you to tell us what they are, please.

A These are the microanalysis plots of the weather where we have extracted information from the official weather

2

3

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

charts for the various dates and times, and we have combined that information, information from the vessels, we have combined that information with information from other vessels that have kept weather logs for this particular period, so that these --

Raguso-direct

Q Excuse me. Are these vessels vessels which report to the United States Government as weather reporting ships?

A The ship reports on the weather charts denote those vessels that have reported at that precise hour, or give or take an hour, within that particular benchmark time, to the various governments, to the Japan Meteorological Center or to the American Meteorological Centers.

The weather charts are constructed by these observations which are received by wireless and then retransmitted to Washington for the eventual plotting of these maps.

n When you say these maps, are you referring to the maps which are attached to Exhibit 50?

The large charts which are the final analysis charts from the National Meteorological Center, these here.

The larger ones? 0

Yes, sir.

What are these smaller documents that look like ships' logs?

These are copies of the weather logs of about ten

24

25

23 *

3 h

4

1

5

6

8

9

10

12

xx 13

14

15 16

17 18

19

2021

22

23

24

25

or twelve vessels that had been in the area also, and may not have reported the weather in time to have been included on the weather maps, but sent their weather logs in to our government at a later time.

Q In making your microanalysis of the weather conditions, did you use both the ships' logs as well as the charts which are both part of Exhibit 50?

A Yes, sir, I did.

MR. O'REGAN: I offer the official weather reports as Exhibit 50 in evidence.

MR. ALLEN: No objection.

(Plaintiff's Exhibit 50 for identification received in evidence.)

Q You used the information from how many ships in making your microanalysis?

A There were about 23 or 24 ships for about four of these maps, and the amount went down to about 13 or 17 at its very least, but 23 to 24 at the maximum.

Q This is the information contained in Exhibit 50; is that correct?

A Yes, yes, sir.

Q I take it then that the microanalysis data which you have plotted is not theoretical data, it's actual weather observations; is that correct?

2

3

4

5

6

7

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

It's from the records, sir, yes, sir.

Would you continue explaining your microanalysis.

We thought the charts as they are reproduced from the microfilm are very small scale, so we wanted to take a larger look, a closer look at the specific area of concern where this vessel was, so we reproduced the data on graph paper that was of a proper scale, with latitude and longitudinal reference but allowed for a blown up or expanded view.

That would be, for example, on Exhibit 51-G, that would be the graph paper which is the bottom part of the exhibit: is that correct?

Yes, sir. Λ

Then what did you do?

We plotted the winds in the meteorological symbology and then noted the sea height and direction as reported in from the reference data; and noted the swell direction and swell height as also noted in the official data for the 5th at 18 Greenwich which is ship's time, the 6th at 0500.

Which is Exhibit 51-G?

51-G. A

For February the 6th at 00 Greenwich which is ship's time, the 6th at 1100 local. That is Exhibit 51-H.

For February 6th at 0600 Greenwich time, which is ship's time the 6th at 1700 local.

O Which is Exhibit?

A 51-I.

For February 6 at twelve o'clock Greenwich mean time, which is ship's time the 6th at 2300 local. That is Exhibit 51-J.

For February the 6th at 1800 Greenwich time, which is ship's time the 7th at 0500 local. That is Exhibit 51-K.

And for the final chart, which was February 7 at 00 Greenwich, which is ship's time the 7th at 1100 local, and that's 51-L.

Q You also -- I noticed there is a top piece of paper on each one of those exhibits. What does that paper indicate?

A We put tracing paper over these plots in order to do a streamlined analysis and a contour analysis of what the conditions were in the entire field, and then to relate the entire conditions in the field to the conditions that were most probably encountered by the vessel.

ANTONION PEMADES. In a couple of cases, there were vessels that were very close; but this kind of analysis allowed a meteorologist to relate his entire feel of the data to the data needed in one particular location; so in this manner we did an overlay for the wind, and we did an overlay for the swell.

2

3

4

- Q You did it on each of those exhibits, 51-G through 51-L; is that correct?
 - A Yes, yes, sir.

MR. O'REGAN: I offer these in evidence.

MR. ALLEN. No objection.

(Plaintiff's Exhibits 51-G through 51-L for identification received in evidence.)

Mr. Ragusc. I note on some of these exhibits, and I take Exhibit 51-L as an example, on the graph paper some of the items are in red and some are in black.

* A Yes.

Q What is the reason for that?

A The notations in black are those vessels' observations from the weather maps, from the official weather maps; and the notations that were recorded in red were the vessels' observations of weather that were gleaned from the weather logs, so that we could keep it on a separate basis but still combine them for the overall analysis.

I also note that you have some lines on there, squiggly lines with an arrow at the head. What does hat indicate?

A That's the notation that I used to indicate the direction from which the swell was coming and its value, its height in the meteorological code.

XXX

10

9

-12

13

14

15 16

17

19

20

21

22

23

24

IU

your examination of the weather in the Atlantic?

A Yes, sir.

Q Mr. Raguso, would you tell us from the results of your studies, what were the conclusions that you reached regarding the weather encountered by the ANTONIOS DEMADES. from February 5th to the time she sank?

MR. ALLEN: Your Honor, I am going to object unless this is broken down into time reference periods.

That is a 48-hour period.

THE COURT: Yes. Well I take it the question foresees that that is what the witness will do.

MR. O'REGAN: Yes.

A Can 1 refer to the report?

O Certainly.

A On the 5th of February at 1100 local time, ship's time, which is the 5th at 00 Greenwich time, we found that the ship's position, the wind to be west-southwest at 20 to 15 knots, which would be in the Beaufort 5 to Beaufort 4 range. The sea conditions to be westerly at 7-1/2 feet, and the swell conditions to be from the west-northwest at 12 feet.

On the 5th at 2300 local time, which would be the 5th at twelve o'clock Greenwich time, in the ship's position we found the wind to be south-southwest at 25 knots, which would be Beaufort Force 6; the sea conditions to be south-

southwest at 7-1/2 feet, and the swell conditions to be from the southwest at 10-1/2 feet.

On February 6th at 0500 local ship's time, which

wou
pos
wou
st

would be the 5th at 1800 Greenwich mean time, at the ship's position we found the wind to be westerly at 40 knots, which would be Beaufort Force 8. The sea conditions to be westerly at 10-1/2 feet, and the swell to be westerly at 18 to 19-1/2 feet.

On February 6th at 1100 local ship's time, which would be the 6th at 00 Greenwich, at the ship's position we found the wind to be west-northwest at 40 to 45 knots, that would be Beaufort 8 to 9. The sea conditions to be west-northwest at 15 feet, and the swell to be west-northwest at 25 and very possibly 28 feet.

On the 6th at 1700 local time, the ship, which would be the 6th at 0600 Greenwich mean time, we found the wind to be west-northwest at 40 knots, which would be Force 8, and sea conditions west-northwest at 15 foot in height and the swell west-northwest at 25 foot.

On the 6th at 2300 local ship's time, which would be the 6th at twelve o'clock Greenwich, we found the wind to be west-northwest at 40 down to 35 knots, with the wind force in the Beaufort to be 8 tending towards 7. The sea conditions west-northwest at 13-1/2 feet in height, and the swell

22 23

mb1m

Raguso-direct

condition is northwesterly at 22-1/2 feet.

Now on the 7th of February at 0500 local, which is the time of the SOS, that would be the 6th at 1800 Greenwich time, at the ship's position the wind was northwest at 40 to 45 mots, that would be Beaufort Force 8 going back to 9, and the sea height would be 13-1/2 feet from the northwest, and the swell conditions would be from the northwest at about 21, 21-1/2 feet.

Q Did the force of the winds, based on your analysis, ever exceed Force 8 to 9?

 Λ No, sir. The maximum force of the wind that we saw as a result of our analysis was 8 to 9.

Q. What were the highest waves that you found as a result of your analysis?

A The highest waves? The sea condition, sir?

Q Yes, sir.

A We found reported 15, 15 foot, sir; 15 feet.

O Mr. Raguso, I show you Exhibit 51-M. Can you identify that for us?

A That is the table that was constructed as a result of the microanalysis series; and this is the table which I am referring to in my report.

MR. O'REGAN: Offered in evidence.

MR. ALLEN: Well, subject to the same right to go

3 4 5

1

2

A No, sir. Considering that west-northwest to northwest is 11 or 22 degree difference, it falls within the range that would be -- which I had mentioned earlier. If the range is more than 45 or 60 degrees, we consider it to be cross seas. This is not.

7

Q So no cross seas in this case?

8

A No, sir.

9

10

11

Q Mr. Raguso, how did the weather encountered by the ANTONIOS DEMADES when proceeding from Panama to the time she sank compare with weather which was to be expected on this track at this time of the year?

12

13

14

A The weather conditions that we saw for the vessel from Panama to the Date Line were rather low. The winds were in the range of Beaufort Force 2 to 3 or 4. There were beam and quartering and mostly following.

normally expect on a trip from Panama up through the lower

latitudes of the North Pacific, mostly for any season of the

year but for February or January, the conditions from Panama

15 16

and quartering and mostly following.

The kind of weather conditions that you would

up to the Date Line were as one would expect.

17

18

19

20

21

22

23

24

25

From the Date Line westward toward Japan in the latitude of 30 and a little further to the north, the weather conditions were as again one could expect approaching Japan and for a February of the year, for this particular month of

2 the year.

mb1m

There was some storm activity. We had several storms that traveled storm tracks during the end of January and the beginning of February, and it was felt -- I felt that the weather conditions as encounted by the ANTONIOS DEMADES after the Date Line through the 7th were as one could expect for February approaching Japan.

- Q Were they unusual, in your view?
- A No, not for a February in the North Pacific Ocean.
- Q And how do you reach this conclusion?

A We referred to the Climatological and Oceanographic Atlas which was published by the Department of Commerce, and it ties together about 20 years worth of climatological data, ship reports and observations where several reference channels in the Climatological and Oceanographic Atlas offer the normal storm tracks for the months of the year, and specifically, for the month of February.

O I show you Exhibit 50-B, and ask you, did you use this in arriving at your conclusion?

A Yes, sir. On this particular chart, which is Chart Number 16 for February, there is an outline of the primary and the secondary storm tracks which are usually for February in this ocean.

Q Which are the primary storm tracks on that chart?

Raguso-direct

A The primary storm tracks are the bold line with the arrowhead on it.

O And which are the secondary?

A The secondaries are the dotted line. The dashed line.

Q You say you sailed in all waters yourself. Did you ever sail in the North Pacific at this time of year?

A Yes, I sailed in the North Pacific in December and January, yes, sir.

O Did you find from your own personal experience that the weather encountered by the ANTONIOS DEMADES was to be expected?

MR. ALLEN: Objection, your Honor. His personal weather experience is not related to that the ANTONIOS DEMADES encountered.

THE COURT: I will sustain that objection.

Q Did the storm encountered by the ANTONIOS DEMADES travel on an unusual storm track?

A No, sir. It traveled -- it developed as a weak low west of Honshu, popped over Honshu and traveled pretty close if not along the primary storm track until it got to the Alcutians, and then turned north and traveled along the secondary track into the Bering Sea.

Q I take it that it was not a stationary storm; is

3

4

5

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Raguso-direct

42

that correct?

No. sir, it was a migrating storm.

What would a stationary storm cause, what unusual conditions, if any?

A stationary storm, or a semi-stationary storm, is a completely different animal than a migrating storm. A storm will sit or spin in an area for a 'ngth of time and the relationship of the fetch area and the duration that the wind might blow over this wabroken line of area or fetch area would create higher wave conditions than the usual with a migrating storm where things are under change all the time.

- And this was a migrating storm; is that correct? .)
- The storm of the ANTONIOS DEMADES --
- Yes.

-- was a migrating storm, yes, sir, 25 to 35 knots in its speed.

And was it of unusual radius?

It eventually developed to a radius in the ball park of a thousand miles. I think earlier as it came off Japan it was a smaller radius, of course. Midway between its track from Japan to the Aleutians it was a radius in the ball park of about 500 to 650 miles, if I remember from the research.

at unusual for this area? Is

A For the North Pacific for February, this is not unusual.

- O So that this wasn't the storm of the century, was it?
 - A Storm of the century?
 - Q Yes.
 - A No. sir.
 - Q Was it the storm of the year?
- A I don't think so, no, sir, not from the research that we did.
 - Was it even the storm of the month?
- MR. ALLEN: I think we better define those terms.

 Those are just little observations. I object.

THE COURT: Yes.

- Q Were there any other storms of greater intensity during that month in the North Pacific?
- A The very next storm, which came out from the Sea of Japan several days later, deepened to a lower central pressure, and had as large a radius if not even a larger radius at its fullest development, so this was maybe about three days or four Jays after this particular storm.
- Q Mr. Ragugo, do you recall my advising you that the defendant, the owner of the ANTONIOS DEMADES, contends in this action that a vessel called the CALIFORNIA MARU was

. 18

- Q An entirely different storm from the ANTONIOS DEMADES?
 - A Yes, a different storm. It's three days later.
- Q In your investigation, did you learn of any other ships which sank in the same storm as the one in which the ANTONIOS DEMADES sank?
 - A No, no, sir.
- Q Were there any other vessels in the storm beside the ANTONIOS DEMADES?
- A I think we cited some 23 or 24 vessels in our plots that were within 10 degrees latitude to the ANTONIOS DEMADES and within about 15 or 20 degrees in longitude, about 23 or 24 ships that we could cite.
- Q Were some of them closer to the center of the storm than the ANTONIOS DEMADES?
- A Some of them were north of the ANTONIOS DEMADES and closer to the center of the storm, yes, sir.
- Q I show you Exhibit 51-B, and ask you, can you identify that for us?
- A 51-B are copies, xerox copies made of the official Weather Bureau final analysis charts from January the 6th of 1970 through January 13th of 1970, to show the reference work that was utilized in the reconstruction of the Boston to Panama leg for the ANTONIOS DEMADES and the weather charts

I'd like to start in sort of chronological order

CXX

25

		'U 18a
1	mblm	Raguso-cross 61
2	condition	, higher weather intensity than the 0600.
3	٨	Yes, sir.
4	O,	Now I noticed in your diagrams and plots you drew
5	the positi	ion of the ship at that time.
6	Λ	Yes, sir.
7	Q	Sort of a big circle. What did you use for com-
8	puting tha	at precise position?
9	Λ	We had it fixed from the 4th at local noon. That
10	set up one	
1	Q	You took the mate's statement where he tried to
2		what the position was on local noon on the 4th?
13	٨	The 4th.
14		
	Q	And dead reckoned from then on?
15	Λ	Yes, sir.
16	Q	You know, of course, don't you, that the mate and
17	all the st	arvivors didn't carry a single record off the ship,
18	don't you	, this was all from memory?
19	A	Yes, sir.
20	Q	But you also had the position of the SOS. Couldn't
21	you have 1	worked that back from that?
22	Λ.	We did so, sir.
23	ú	Did they come out the same?
24	٨	After a reversal of course from what the second

officer said. He turned 180 degrees to the east for three

1 mb1m 2 hours

3

4

5

6

7

8

9

10

11

12

Raguso-cross

62

hours, and then reversed back 180 degrees back toward the westerly, we included that.

O Let's put it this way: We have a precise location for the SOS.

A Yes, sir.

All right. Now, how far away from that and in what direction did you figure the ship was when these waves struck at 1400 local time that took in the hatch?

A The SOS position is to the north-northwest, 20 to 30 miles from that position on the 6th.

Q So generally speaking we are in the area of the SOS, aren't we?

A Yes, sir.

Q Because the ship went back for a while and then went forward.

A Yes, sir.

Q And didn't move too much.

A Yes, sir.

O All right.

Now in that span of time and position, this ship did encounter a storm, didn't she?

A Yes, sir.

O And the weather reporting ships are all told to report an average condition, are they not? In other words,

14

15

13

16 17

18

19

20

21

22 23

24

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

2 if the wind is 30 knots and in gusts up to 50, the report goes in at 30, doesn't it?

- A It's the sustained wind that is reported.
- O Yes, that is what I mean.
- A Yes, sir.
- Q So they report the sustained wind.
- A Yes, sir.
- Q But there could be gusts up to 10, 20, maybe 30 knots more, couldn't there?
 - A Yes, sir.
- O And only the person on the scene would know that, wouldn't he?
 - A Yes, sir.
- Q And on the wave condition, that is also true, is it not, that they are told to report the average wave height?
 - A Yes, sir.
- Q And you know from your experience at sea, don't you, that waves are not uniform like a drawing in the comic paper, that they vary?
 - A Yes, sir.
- Q So there could have been, in this same sequence of seas that might have been reported at 30 feet, there could have been an occasional 40 footer, couldn't there? That's normal, isn't it, to expect a variation from time to time

3

4

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

from the norm?

A Somewhat of a variation, yes, sir.

Q Yes, the seas don't just keep the same uniform height.

A Yes, sir.

Q And as the storm increases, the seas build up, don't they?

A Yes, sir.

Q They have more time to work and operate, and when the seas or waves are coming from two different directions, you said it wasn't a cross sea because you didn't think it was a wide enough angle, is that the idea?

A From two different directions?

O Yes.

A No, that would be a cross situation. We said in conjunction con the waves and the swell are coming from the sar livect it's not a cross.

But if yo have seas coming from any two different.

directions, that is cross sea, isn't it?

A Yes.

O And the swell comes from not the immediate storm but from some prior disturbance that was back west --

A Yes, sir.

0 -- of this location, right?

24

82a 1 mb1m Raguso-cross 65 2 Could very well, yes, sir. 3 Since the swell was traveling eastward, it had to have come from the west somewhere, didn't it? 4 Yes, sir. 6 Did you go back and try and calculate the distur-7 bance that caused that swell? 8 It was this very particular storm that caused the 9 swell as well as it causing the waves, because of the fact 10 that it had been on the ocean for several days and moved 21 along in a migrating east-northeasterly. We found it was 12 the same storm. 13 Even before a storm comes along, there is a normal 14 swell to start with, isn't there? 15 Yes, sir, usually, yes, sir. 16 0 Always? 17 A Yes. 18 There is always some motion as swell? 0 19 A Yes, sir. 20 So this storm just picked it up and intensified it? Q 21 1 Could be, yes, sir. 22 And with the swell and the sea both coming from the Q 23 general westerly direction, they could at times complement each other, couldn't they? 24

25

They could.

3

4

5

6

7

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- O So that at a given instance in this particular storm, it's perfectly possible for one or more tremendously towering waves of 30 or more feet high to come crashing aboard the forward end of this ship, wasn't it? You couldn't deny that, could you?
 - A I could not dony it, no, sir.
- O As a matter of fact, all the conditions were there that could create that condition, weren't they?
- A We had a storm, we had westerly sea and westnorthwest swell, so --
 - Q This was a noteworthy storm, was it not?
 - A It was a storm.
 - Q I said a noteworthy one.
 - A It was a deep storm; 956, 957.
- Q Well, you are familiar with the Mariner's Weather Log, aren't you?
 - A Yes, sir.
 - MR. ALLEN: We will mark this and put it in later.
- Q And this is a standard publication by the United States Government that reports mainly on storms, doesn't it?
 - A Yes, sir.
 - Q Did you read the report of this storm?
 - A Yes, sir, I did.
 - Q Would you like to just take a look at it and see

.. O'REGAN: Objection, unless he defines what he

say that there were no ships reporting waves higher than

23

24

25

15 feet?

mb1m

means by in the vicinity.

MR. ALLEN: I will let the witness define that.

A In the immediate vicinity, that is, a couple of hundred miles in any direction, the answer is no, we did not find anything higher.

We found higher waves reported about 150 miles to

180 miles north of this vessel's position. We found some

higher waves reported to the northwest about 200 or 280 miles

out to the west-northwest or to the northwest. We found

higher waves up to the northeast.

- Q What was the highest swell you found?
- A We saw a code -- excuse me, what was the highest swell?
 - O Yes.
 - A We found in the field?
 - o Yes.

A In the entire field, I believe the AMERICAN CHIEFTAIN was reporting a 36-foot swell, if I remember right, sir. One vessel was reporting 36-foot swells, I believe.

- Q That is over three times higher than this room, isn't it?
 - A Yes, sir.
 - Q And you said I think that the radius of this storm

1

4

5

7 8

9

10

12

14

13

15

16

17

18 19

20

21

22 23

24

25

MR. ALLEN: I object.

Are any of these messages -- do any of these messages concern the position of the ANTONIOS DEMADES in the area of the SOS or two or three days before the sinking?

A No. According to the dates, these are for the first segment of the transit.

- O trely different time, is it not?
- A Yes, sir, they are east of the Date Line.
- Q And the SOS position, as I understand your testimony, you say you plotted dead reckoning to the SOS position and backwards from the SOS position?
 - A Yes, sir.
- Q And the position of the ANTONIOS DEMADES at the various positions prior to the SOS on the 5th and the 6th and the 7th is the information you used in determining the weather --
 - A Yes, sir.
 - Q -- encountered by that vessel; is that correct?
 - A Yes, sir, I did.
- Q Mr. Allen spent some time asking you questions about ships reporting weather information, and he emphasized that oftentimes ships may make reports with the highest waves in mind rather than the average.

25

mb 1m

Paguso-redirect .

85

MR. ALLEN: I don't think that is what I said.

MR. O'REGAN: Your Honor, he asked specifically, is it not true that vessels are supposed to report the average waves but oftentimes they report the most severe waves.

MR. ALLEN: That's correct, I think you stated it differently.

Q If that in fact is the case, in any of these reports that you analyzed, then it would lessen the weather actually encountered rather than increase the weather, severity of the weather encountered by the ANTONIOS DEMADES; is that correct?

MR. ALLEN: I object to that as leading. And I don't think I understand it.

MR. O'REGAN: Withdraw the question.

- Q You mentioned before the AMERICAN CHIEFTAIN, and you indicated that that vessel at one time reported a 36-foot swell.
 - A Yes, sir.
 - Q Was that vessel north of the ANTONIOS DEMADES?
 - A Yes, sir, she was.
 - Q Was she closer to the center of the storm?
 - A She was closer to the center of the storm, yes, sir.
 - Q And did you take into account the report of the

30 degrees latitude. The date was then adjusted to 2nd

23

24

25

February."

I believe this establishes that the course from the

mb1m Raguso-redirect

time of passing Midway up to and including and after passing the International Date Line was 278 degrees.

Q That, in any event, is the course you used, is it not, Mr. Raguso?

Λ Y ir.

O Not referring to the Beaufort Scale, what force winds would you need to produce waves of 30-foot height?

A Beaufort Force 10 for waves 20- to 30-foot high, and Beaufort Force 11 for waves 30- to 45-foot high.

Q So you would need Beaufort Force 10; is that correct, for 30-foot high waves?

A 10 to reach at least 30, yes, sir.

Q There were areas in this storm where vessels experienced more severe weather than the ANTONIOS DEMADES; is that not true?

A Yes, sir.

Q Are you convinced based upon your analysis that the ANTONIOS DEMADES at no time experienced wind conditions in excess of Force 9?

A That is our conclusion, that is what I found. I did not find wind conditions exceeding Beaufort 9.

Q As far as the ANTONIOS DEMADES is concerned.

A That's right, sir.

MR. O'REGAN: No further questions.

5

6

7

8

9

10 11

12 13

14

15

16

17

19

18

20

21

22 23

24

25

MR. JACOBSEN: Our next witness is Captain Patterson.

RICHARD OAKES PATTERSON,

called as a witness by the plaintiff, being first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. JACOBSEN:

- Captain, what is your education and background?
- Graduate of the New York State Maritime College, 1923, and received my first officer certificate about nine months later; and from there on I spent a good many years in varying capacities on various oceans of the world, and about 1936 I was chief officer with the United States Lines until -- relief master until 1940.

At the approach of World War II I went into the Navy as a lieutenant, and came out from the Navy in the latter part of '46 as a captain, returned to the U.S. Lines in command of their ships, and from that time up till I retired in 1057 commanded 15 different ships including cargo ships upt to our two passenger liners.

And my naval service was from 1929 as I was first commissioned, six years active duty. 1958 I was appointed rear admiral, 1963 rear admiral upper half, and then I

MR. ALLEN: Well, industry practice is one field,

24

25

the other.

1

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Patterson-direct

2 but U.S. Lines has no relevance.

MR. JACOBSEN: I think it does.

THE COURT: Why don't you try to limit it to the industry practice.

MR. JACOBSEN: All right. Well, there are various segments, but I will approach it on that basis.

- Q Captain, are you aware of an industry practice?
- A Yes, I am.
- O What is it?
- A The general practice is a minimum of 20 percent reserve fuel on board.
 - O Are there any exceptions to that?
 - A Not that I know of.
 - O Mhat about with Military Sea-Lift Command?
- A Well, that's 30 percent is standard with the Military Sea Command.
- Q Do you know of any companies that require more than 20 percent?
 - A Yes, the company I was with required 25 percent.
- O How does a vessel determine the quantity of bunkers on board? What is the customary way of doing it, measuring it?
- A Well, the standard way is to estimate the route of the vessel over the particular passage desired, the type of

Patterson-direct

weather that is to be anticipated at that time of year, then estimate the minimum fuel requirements, and then add on to that the safety factor of 20, 25 or 30 percent, depending upon the desires.

Q How do you determine the usable amount though that is on board?

Mell there is never -- all of the oil can never be used; and the rough rule of thumb is that a minimum of 5 percent to a maximum of 10 percent is unusable, due more or less to coating on the tanks, being below suction level, trapping in the various pockets of the tanks, and a sludge that gradually builds up as a ship is older, and this just being for anywhere from 5 to 10 percent that is unusable.

O Have you calculated the amount of bunker fuel that was on board the ANTONIOS DEMADES when she was leaving the Canal Zone in Panama?

A Yes, sir, I have.

Q Do you have a copy of your report with you, Captain?

A Yes, I do.

MR. JACOBSEN: It's been marked Exhibit 52 for identification.

Q How much fuel -- you can refer to your report if you wish -- how much fuel was on board, usable when she left Panama?

mb1m

Patterson-direct

- A Well, I estimated about 942 tons usable.
- Q How did you dc. that? How did you calculate it?
- reported upon her arrival in Colon, the amount received in Colon, less the amount consumed or in the one day and 55 minutes in the Port of Colon, the amount consumed en route from Colon over to Panama; and the amount on hand upon arrival in Panama and deduction of 5 percent unusable which would leave 942 tons of oil available for use.
- Q Did you take your figures from that agent's report at Panama which is Exhibit 57?
 - A Yes, sir, I did.
 - Q How much was on board arriving?
 - A Arriving at Panama was 99 tons.
 - And then she took on 907; is that right?
 - A Yes, sir.
 - Q And then what did you do?
- A With 907 I gave her, say, one thousand-six. But she laid in Panama for roughly a day, 55 minutes, so the consumption of oil from there would have to be deducted from the amount that she had upon her arrival, so that was 6 tons deduction from the one thousand-six.

Then we deducted the 5 percent unusable. That came down to 950 tons; and an estimate on 8 tons passing through

. 1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

the Canal.

I have no exact figures. This is purely a guesstimate and that 8 tons, it could be two more, two less.

- O So that leaving the Pacific side of Panama you calculate 942 tons.
 - A Yes, sir.
- Q Have you determined the rate of consumption of bunker fuel by the ANTONIOS DEMADES?
 - A Yes, I have.
 - O What is it?
 - A 35 tons per day.
 - 0 How did you reach that?
- A From the general information brochure of the ship which gives her speed and her fuel consumption as 35 tons per day.
 - O Is that Exhibit 9?
 - A Yes, sir. Let me just check that, if I may?
 That's right, sir.

And also from the radio message sent in from the ship reporting that at sea 35 tons a day average fuel consumption.

- Q Are those the radio messages that have already been mentioned, Exhibits 34, 35 and 36?
 - A Yes, sir.

- ? Have you considered the sea speed of the ANTONIOS DEMADES?
 - A Yes, I have.
 - 0 What is it?
 - A 1 would say her actual sea speed is about 13-1/4.
 - O In what conditions would that be?
 - A With a load condition under fair weather.
 - Q How did you determine that?
- A Well, originally she was rated as a 15-knot vessel. Then with the 1966 Load Line Convention, she was allowed to load two feet deeper, and that two feet of extra wetted surface in the fullest part of the ship would reduce the speed approximately one knot an hour, bringing it down to about 14; and after that the vessel had been out of drydock for a year, had been in some very hard services, had been considerable bottom damage reported that had been repaired in the shipyard, and there is no doubt that the original shipyard coating of paint had long since vanished and found to be scale or marine growth on the side.

A combination of that, I'd say a conservative loss of speed there I would say would be anywhere from a half to three-quarters of a knot.

Q Did you calculate the speed that the vessel actually made from Boston to the Canal Zone?

A Yes, sir, I did that.

I have no doubt that she was beginning to run into

mb1m

Patterson-direct

some swells and winds enough to knock her speed down from what she had had befor

On Exhibit 9, is there a speed indicated there?

That is the wide type booklet.

A Yes, sir, that is the one I mentioned before as 15 knots.

And you have taken that into consideration here in your testimony when you said that you believe the speed was 13.25?

- A Yes, I did.
- O Have you calculated some distances?
- A Such as from Cristobal to Balboa and through the Canal and from the Canal to Japan.

Yes, sir, I did.

O How did you do this?

A I took first from Balboa, worked on the basis, the second officer said that the ship had passed 60 miles north of Midway; and he also said 60 miles north of the Hawaiian Islands but the Hawaiian Island run southeast-northwest, and I was then sure exactly which island he meant, so I took a straight line from clearing the Gulf of Panama direct to a point 60 miles north of Midway, then another direct run line up to the point of the SOS.

On your report there, which is marked Exhibit 35

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

1m

for identification, do you have those distances set forth on the last page?

Patterson-direct

A Yes, I have.

Q So that the distance from Panama to Yokohama is how much?

A 8,075 miles.

O Going back to those radio messages, Exhibits 34 and 36, did you plot those positions?

A Yes, sir, I did.

And how would that affect the distance if you used that?

A If I used those distances, it would be about 52 miles longer.

Q Than the 8,075?

A Yes, sir.

Q Have you considered the route that the ANTONIOS

DEMADES actually took, in other words, the one going 60 miles
north of Midway and then the course at 278 towards Japan?

A Yes, I have.

Q What is your opinion of that course?

A Well, considering the draft of the ship, deep load, with a freeboard of about ten feet, not much more, I think it was a reasonably good route.

O Are there any other routes that are used?

And how does that compare with your 942?

25

O Do you have that calculation?

J 103a

		0 1034
1	mt 1m	Patterson-direct 10.
2	/ A	I have it here somewhere, I'm sure.
3		Yes, I estimated she'd probably have about 143.7
4	. tons;	
5	Ů.	On board at that time?
6	Λ	At that time, yes.
7	0	Based on the time that had transpired from the
8	time of 1	eaving Panama?
9	Α	Yes.
10	Ó.	Pacific side until the time 1400 on February 6.
11	Λ	That's right, sir, at 35 tons per day.
12	Q	If the ship averaged 12 knots and without regard
13	to any res	serve, what would be the situation in amount of
14		ired to go from Panama to Yokohama?
15	Λ	She would need 981.34.
16	Q	How short would that be?
17	Λ	39.34 tons.
18	0	And that is at an average speed of 12 knots but
19	without re	egard to any reserve; is that right?
20	٨	That's right, sir, without any reserve.
21	0	Have you calculated the distance from Panama to
22		vessel entered the summer zone?
23		Yes, sir, I have.
24	0	Have you prepared this chart that is here on the
	1	mire you propared this chart that is here on the

side of the room?

3

4

5

6

8

9

10

11

12

15

14

15

16

17

18

20

21

22

- Yes, I did.
- Exhibit 49 for identification.

Can you point out there where the various zones are for us?

Yes, sir, the summer zone actually starts here from 13 up to the north, and this vessel crossed in here at that point right there at 105 and 13.

- That is on the course going from Panama to --
- Up to north of Midway.
- What if she was on a slightly different course?
- If she was on a more southerly course, it would take her longer to get up into that.
 - And if she was on a more northern course?

A She would be there a little bit quicker, but then she would be within the zone up here along the coastal area.

O How far did you calculate it was from Panama to where the vessel would enter the summer zone based on what the second mate said?

A 1,634.

MR. ALLEN: Excuse me, your Honor, can we hear the rest of that question? Based upon what the second mate said in his estimate?

MR. JACOBSEN: In his statement.

MR. ALLEN: All right.

24

2

J 105a

		J 105a
1	mb1m	Patterson-direct 107
2	Q	That is summer all the time, is it?
3	Λ	Yes, that's summer all the time.
4	Q	And then above this line?
5	Λ	Above this is winter.
6	Q	That is the winter, so-called North Pacific?
7	Λ	Yes.
8	Ú	How long would it take to get to that summer zone
9	from Pana	ama at a speed of, say, 13-1/2 knots?
10	Λ	13-1/2 would take 5.04 days.
11	Q	And 14 knots?
12	Λ	At 14 it would take 4.86.
13	Q	And at 14-1/2?
14	Λ	4.69.
15	Ó	Have you had any experience with vessels equipped
16	with MacG	regor type hatches? By that I mean semiautomatic
17	or automa	tic hatches.
18	Λ	Yes, sir, I have.
19	Q	Have you sailed on them?
20	Α	Yes, sir.
21	Q	How many approximately?
22	Λ	Four of them.
23	Q	Have you encountered Force 8 weather with those
24	vessels?	
25	٨	Oh, yes.

	!!	
		J 106a
1	mb1m	Patterson-direct 108
2	0	Force 9?
3	٨	Yes.
4	Q	Force 10?
5	Λ	Yes, I have.
6	Q	Force 11?
7	Λ	Yes, and higher than that.
8	. 0	Force 12.
9		And did any of the hatches on those ships ever open
10	up?	
11	A	No, sir, I have never seen it happen.
12		MR. JACOBSEN: Cross-examine.
13		.THE COURT: Will this be a good time to recess for
14	lunch?	
15		MR. JACOBSEN: Yes, sir.
16		MR. ALLEN: Yes, sir.
17		THE COURT: And is an hour and 15 minutes enough
18	time for	lunch?
19		MR. JACOBSEN: Yes.
20		THE COURT: We will reconvene at ten minutes after
21	two, and	I plan to sit until about a quarter of five. Do
22	you have	enough witnesses to
23		MR. JACOBSEN: Yes.
24		MR. ALLEN: We can always read depositions, your
	1	

Honor.

J 107a

mb 1m

Patterson-direct

108a

THE COURT: You will plan to sit.

MR. JACOBSEN: I have my next witness due from Boston and he is due here now, a naval architect.

THE COURT: Very well, we will recess until ten minutes after two.

(Luncheon recess.)

2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

AFTERNOON SESSION

2 p.m.

(In open court.)

RICHARD OAKES PATTERSON, resumed.

CROSS-EXAMINATION

BY MR. ALLEN:

- Q Captain, I am not sure if you had any comment on the draft situation of the ship, but perhaps we can clear it up. You did make some draft calculations, I assume, did you?
 - A Yes, sir, I did.
- O And can we agree that this ship encountered the storm and sank in the summer zone?
 - A Yes, that's right.
- Q And can we also agree that at that time she was above her summer marks?
 - A Yes, I would think we can assume that.
 - O All right, you have no calculations to the contrary.
 - A No, sir, I do not.
- Now let's cover one other point, too. Just before you left the stand, or just before the noon recess, I think you said that you had sailed in several ships with MacGregor type hatch covers; and had never had an occurrence where the storm beat one in or stove it in; is that right?
 - Λ That's right, sir.

Q But you do know from your own experience that that does happen from time to time even in a well-found ship, don't you?

5

6

7

4

A With the MacGregor type of hatches, I have seen minor damage, not on any ship I sailed on, but on other ships I have seen in port, but not on board any I have sailed with, no.

8

9

10

My question to you, sir, is, do you know from your experience and being a master mariner most of your life, that there are reported cases of hatches being stove in by the seas even on well-found ships, don't you?

12

11

A Yes, there are.

13

As a matter of fact, Captain, do you remember the last time you were in this courthouse?

16

15

A Yes, I do.

17

O When was that?

18

A Oh, somewhere back in November, I think.

19

Q What was the name of the case?

20

A Oh, that was the --

21

Q Was that the PIRAN?

22

The PIRAN, yes.

Λ

23

Q Was that a case where the seas stove in the Number 1 hatch?

24

25

A Yes, sir, they did, but that was not a MacGregor

A Diesel oil? Oh, yes, sir, they have a small amount

O Yes. And whatever diesel was on board, you could

Q All right. You are always adding the complications,

2

of diesel oil for their generators.

3

4

5

6

7

8

9

10

11

13

14

15

16

17

18

19

20

21

22 23

24

25

A Yes, provided they want to stop out at sea and change their injectors, they could use that oil.

calculate as part of the reserve fuel, couldn't you?

A Oh, yes. Could be done.

Q So I won't bother you with my recalculations, Captain, except to say that I will just cover the points that you made if you will just give me a minute.

Do you think 14 knots would be an unreasonable estimate if you added up all the evidence in this case as an estimated speed?

A 14 knots? Wouldn't be too far out, no.

All right. And would you agree that 34 tons would not be an unreasonable daily consumption?

A Yes.

but you could do it.

O And I think the ship's figures show that she burned one and a half tons of diesel a day.

A Yes, sir.

Q Does that sound all right to you?

A Yes.

O And if you work out those figures, Captain, and

use the distance I have, which is the book distance between these two ports, would you be surprised to know that, assuming this voyage had gone all the way across to Yokohama, the ship would have arrived with 231 tons of bunkers and 89 tons of diesel on board? Would that surprise you?

A Provided she made 14 knots?

O Just on the figures I gave you, 14 knots, and 35 tons for 7680 miles.

A I wouldn't be surprised at that at all.

THE COURT: I thought you said 34 tons.

MR. ALLEN: I did. 34 tons at 14 knots, yes.

Q And with that reserve, including the diesel, adds up to 43 percent, that is plenty, isn't it?

A Certainly.

And if the master had gotten into trouble anywhere along the route, he could have gone to Hawaii or Midway for bunkers, couldn't he?

A No, he could not.

O You are saying no, he could not. That is a flat statement?

A That is a flat statement. Once again it depends exactly where he is, but he is getting further away, he is circling the Hawaiian Islands way off a maximum distance from Honolulu.

Have you calculated the draft for departure from

,

Q

1 A

25

What is the draft that was given by the pilot?

They had 36 feet-six forward and 39 feet-six inches

J 115a

1	mblm Gilbert-direct	155
2	aft.	
3	O For a mean?	
4	Λ Of 38.	
5	Q How does that compare with the draft you	u calculated
6	based on the arrival draft at Panama from the quar	rantine
7	document which is Exhibit 33?	
8	A With the arrival draft?	
9	Q That's right.	
0	A The arrival draft corrected, we had 35	feet-two
1	inches.	
2	O I mean your draft calculated from the a	rrival draft
3	because of the additions.	
4	Λ For departure, there is a difference of	two foot-
5	ten inches.	
6	Q But can you compare the pilot's draft,	which is a
7	38-foot mean, with your draft statement, based on	the ship
8	arrival draft at Panama? What is the difference	between
9	those two?	
20	A At the time of arrival at Cristobal?	
21	Q As corrected by you to the same time as	the pilot's
2	draft.	
23	A We have a difference of approximately of	ne foot-
24	ten inches.	

Can you explain that difference?

Q.

	•	*	•

A No, I can't.

One is taken by the pilot and one is taken by the ship?

A The quarantine document appears to be more authentic. It matches up the consumptions on the trip from Boston.

Q If the pilot's draft were authentic, how would that compare with what the permissible draft of the vessel is at that location?

A She is way overdraft.

O How much?

A She is for that condition, she is a foot -- you refer to the tropical fresh water or tropical? She was in tropical fresh water at the time the pilot's drafts were taken.

Q That's right.

A She is overdraft by about a foot. I'd have t-calculate it.

MR. ALLEN: Your Honor, may we have an explanation of this word "overdraft"? Over what draft?

MR. JACOBSEN: Over the permissible draft,

MR. ALLEN: And what is the permissible draft? We haven't heard that.

Q What is the permissible draft tropical fresh?

A 36 feet-2-1/8.

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- O Tropical fresh?
- A Let me be sure.
- O Check the capacity.
- A Oh, she is ten inches overdraft. The tropical draft under-load line is 37 feet-2-1/8.
 - O And the pilot's report is tropical fresh?
 - A Yes, is 38.
 - O That is how much, 38?
 - A 38 feet.
 - O So there is a difference of what, 9-7/8 inches?
 - A 9-7/3.
- O Now assume the distance from Panama to the summer zone is 1634 miles. Can you tell us at 14 knots what the draft of the vessel would be on reaching the summer zone?
- MR. ALLEN: I object to an answer on that speculation. That is just all he is talking about is the speed and a distance, and how can a man compute a draft from that?
 - O How can you compute a draft from that?
- A We took the reports from the vessel with regard to speed and fuel consumption, and using a conservative estimate of 14 knots and 35 tons of bunkers a day, two tons of potable water consumption, and one and one half tons of diesel oil, we worked a calculation on the displacement and draft of the vessel at the arrival in the summer zone.

1	mb 1m	Gilhert-direct	158			
2	Q	What is that?				
3	A	With the draft corrected, we came out 36	foot67			
4	inches.					
5	Q	What is the permissible summer draft for	the			
6	ANTONIOS	DEMADES?				
7	٨	35-7/8.				
8	ú	And what is the difference?				
9	Α	About four inches.				
10	Ó	And that four inches is on which side of	the			
11	permissible?					
12	Α	It's four inches overdraft.				
13	Q	Did the 1966 Load Line Convention affect	the			
14	ANTONIOS	DEMADES?				
15	Α -	Yes, sir.				
16	ó	Was the draft changed?				
17	٨	She was allowed an increase in summer lo	ad line of			
18	24 inche	s.				
19	. 0	How much would that be in tonnage?				
20	Λ	Increased her tonnage about 2,000 tons.				
21	Q	Do you have an exact figure?				
22	٨	I think so, yes. You want me to look th	rough the			
23	exact sh	cets?				
24	Q	Sure.				

Ά

25

I have 2160 tons.

you have an opinion as to whether this is a proper procedure

to apply overall, or can you tell us whether you think there

24

2 ough

ought to be any other criteria evaluated?

3

4

1

MR. ALLEN: Objection, your Honor. I don't think this witness is qualified to say whether or not a statute should be applied in a particular instance.

5

MR. JACOBSEN: Yes, this witness is well qualified, your Honor. He is a naval architect.

7 8

THE COURT: Well --

9

10

MR. JACOBSEN: What I am going to is this specific ship and an evaluation of her with respect to an increase in load line.

11

13

THE COURT: Whether or not that is safe or what?

MR. JACOBSEN: Yes; appropriate. In other words,

I want to get into what characteristics of the vessel are significant.

14 15

THE COURT: Safe for what purpose?

16 17

18

19

MR. JACOBSEN: Well, my question is to this witness, do you think this is the proper procedure, a blanket increase, without a vessel by vessel analysis? And then the next question would be, if not, why not?

20

21

22

MR. ALLEN: Your Honor, we are talking about a legal limitation, the load line is legislation, and I don't think it's open to this witness to say whether he thinks it's right or not. We are talking about legality.

23

THE COURT: Could it not be argued, and I suppose

2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

23

24

25

the plaintiff would argue, that despite whatever was provided by the 1966 Load Line Convention, this didn't necessarily mean that it applied to a particular ship, namely, the ship in this case, that it was the safe or the prudent thing to do? Is that the flow of your argument?

MR. JACOBSEN: Yes, what I want to do is the focsle head on this particular ship --

THE COURT: The what?

MR. JACOBSEN: The focsle head, the superstructure forward on this particular ship.

THE COURT: I think I will permit this line of questioning.

BY MR. JACOBSEN:

All right, Mr. Gilbert, what is your opinion?

A At the time the Convention was being developed, the arguments were for increasing the structural strength of the vessels involved. No agreement was reached, and it applied in particular to tankers. However, it was extended into cargo ships, including bulk carriers.

O Is the ANTONIOS DEMADES a bulk carrier?

A She is a bulk carrier, and in the development of the '66 regulations because of lack of agreement no additional structure requirements were made with regard to local features of any vessel; and in the instance of the ANTONIOS DEMADES

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

23

she was	allowed this	increase in	draft without	any considera-
tion to	the other pro	oblems that	might develop.	

Q What characteristics of the vessel would you consider on an individual basis?

A The newer vessels of this class meeting the '66 Load Line have increased hatch strength and larger super-structures forward for reserve buoyancy.

O How does that compare with the construction of the ANTONIOS DEMADES forward?

A She has a superstructure that is not the full width of the vessel, and it's a relatively small one.

Q You are talking about the focsle head?

A Yes, sir.

So that the forward Number 1 hatch is relatively unprotected from seas coming abound.

Q With this vessel as a result of the change in the 1966 Load Line, what new plans were developed that you know of that you have?

A There was a new loading booklet prepared, and that's all that I have seen.

Q What about a capacity plan?

Λ Yes, there was a revised capacity plan.

O Have you examined Exhibit 14, the loading manual?

A Yes.

Q Does it reflect the changes that were made to the ANTONIOS DEMADES' draft due to the 1966 Load Line change?

- A No, that is the old loading manual.
- Q Could the ship's officers have used this manual to calculate the bending moment for the vessel on the last voyage?
 - A No, they could not.
 - Q What is the significance of the bending moment?
- A That is the distribution of cargo through the vessel to prevent it from developing large bending moments both in still water and waves.
 - Q Can you explain that a little simpler?
- A ship is a box girder in which you have buoyancy holding the hull up, and to this you add weights, which include the light weight of the vessel and its machinery, and these are often concentrated, at least the machinery is, in the ends.

When you load cargo, you have an unequal distribution of weight in the hull in relation to the buoyancy of the hull, so as a result you have very simply, you can have a situation of a vessel with a cargo concentrated amidships that you have a beam between two saw horses and the weight sitting in the middle which causes it to bend downward or sag.

A loading manual is prepared for a ship because not

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

Gilbert-direct

only does it have a still water situation, but also in waves, and the weight distribution, generally you reduce it somewhat in the middle of the cargo section and on the quarter lengths or on the -- well not quite the -- the 20 percent lengths from forward and aft of midships, you have more of your weight and this is to reduce, in this type of vessel, and/or, for example, she probably hogged somewhat.

What can be the consequences of not having the bending moment?

Well, then in the loading of a vessel without a loading manual, you wouldn't follow proper procedure, you could overstrain the vessel.

Are you talking about sequence in loading?

Well, the sequence is important during the time of loading and when the vessel puts to sea, of course, the distribution of the cargo can cause it to be pre-strained.

So you are talking about the final distribution as well as the sequence of loading.

Sequence of loading, yes, sir. Λ

What do you mean by sequence though?

For example, if they started loading cargo in all the aft hatches and ignored the forward end, you can have a large aft moment.

What could be the consequence of that?

24

Yes, sir.

MOI

Q Can you tell us briefly the extent of damage that was sustained by the ANTONIOS DEMADES when she stranded on Quito Sueno Bank in October 1968 before the yard appeared?

Gilbert-direct

A Yes, we took the repair bills which identified plate replacements, and refairing in the hull, as well as framing replacements, and the vessel sustained heavy bow damage, and she was damaged midships and aft under the main machinery.

deformation in the secondary structure of the inner bottom almost throughout the entire length. She was severely strained because of the buckling in the fore and aft stringers in the inner bottom, and apparently deformation in the main deck which caused the hatch coamings 1 through 7 to need repairs as well as the hatch covers.

Q Have you read Omachi's deposition, the ABS surveyor in Japan?

A Yes.

MR. JACOBSEN: Your Honor, if I may, I'd like to read the pages in question, two pages.

"Ouestion: No you think the damage to the hatch covers was not caused by the heavy weather?

"Answer: No, I don't think so.

"Question: Then as I understand it, you think the

缢

damage to the hatch covers was caused by the grounding?

"Answer: Yes.

"Question: And that the hatch covers, which are on top of the vessel, were damaged as a result of distortion of the vessel?

"Answer: Yes, from the grounding, yes.

"Question: But referring to the grounding in Exhibit B," -- which is now Exhibit 26 -- "how would that grounding cause the damage to the hatch covers referred to in Item 27 because of buckling?

"Answer: Buckling, also if the ship go aground for a long time and try to refloat, I think the hull construction gets some deformation or something like this.

"Question: Distortion?

"Answer: Yes, distortion, or I think deformation."

Q My question is, what effect would deformation as referred to by the ABS surveyor have on hatch covers and coamings?

A Deformation in the main deck would cause the hatch coamings to buckle or to fold, to change in the fore and aft direction. The coamings would either come in, probably fold in somewhat; and this would cause failure in either the wheel sections of the hatch covers or cause them to buckle.

Q Referring to the repair bills, Exhibit 29 where it

3

1

4

5

7

8

10

12

11

13 14

15

16

17

18

19

21

22

23

24

25

says that hatch covers and coamings were faired, is this sufficient to restore them to their original strength?

A If properly done, yes.

Q What effect would deformation have on the hull itself?

A Well, serious deformation would, on repair, if not -- if the vessel is deformed when it's placed in the dock and then it's repaired, locked in stresses can be rewelded into the hull if, for example, in this vessel, the bottom is replaced; and if she were already deformed, say, due to hogging, then welding up the bottom she would have locked in strains in that condition, which would probably tend to cause her to go partly back to her original shape.

O This is while she is on the blocks in the dry dock?

A Well, if they bring her off in the damaged condition, she is buckled, and when they replace --

Q How long was she on the strand at Quito Sueno Bank?

A I don't know.

O It's in the survey.

A I didn't look. Eight days, I believe.

Q October 28 to November 5th. I guess that is referring to Exhibit 26. That is eight days. You were saying about the time on the bottom.

A Yes, the critical --

2

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- O On the strand?
- A On the strand. The critical thing is how heavily stranded she was; and with the amount of bottom damage she sustained, she was quite badly aground.
- Q Can you tell us percentage wise from looking at the survey reports what percentage of the bottom was damaged forward anyway?
 - A Approximately 50 percent forward.
- And forward, is that forward of what, the bridge or --
 - A Forward of midships.
 - Q Forward of midships?
- A Yes, the damage went in under the 'ridge. Aft she had severe damage all through the stern section, too.
- Q Is it possible to hog a vessel while she is on the strand?
 - A Yes.
 - Q How is that accomplished? How does that happen?
- A That is where a vessel would be hung on a rock in the midship section and the ends overhang.
- Q What would be the result of that? What is the significance of hogging?
- A llogging, the bottom buckles, the deck takes attention, and the hatch -- well the deck goes into heavy strain

in the report. It's in evidence. I am objecting to this witness speculating as to what happened at that grounding site which has not been defined in any, or described in any exhibit except for the duration of time and the location of the area.

THE COURT: Well, it's true that that is missing, but the witness is familiar with the details of the repairs?

MR. JACODSEN: Yes.

THE COURT: Does that supply the deficiencies which counsel has pointed out?

MR. JACOBSEN: I think so, your Honor. I am focusing on the damage to the vessel, which is set forth in detail in the American Bureau of Shipping survey report.

THE COURT: Is this witness familiar with the extent of the damage?

BY MR. JACOBSEN:

O Are you familiar with the extent of the damage as reflected in Exhibit 26?

A Yes, we prepared an exhibit blocking out the plate replacements, and we also did a study of the framing and structure that was replaced in the vessel, from the shipyard repair and the ABS surveys.

O bo you have that plan?
(Witness handed paper to Mr. Jacobsen.)

- Q Perhaps you can come around here. Would you explain that to us then.
- A All right. The red patches are the major plate replacements in the hull at the time of the repairs in Japan. The green areas were deformed sections where floors --
- Q Excuse me, you are referring to the grounding damage at Quito Sueno Bank?
 - A Quito Sueno Bank, yes.

The side damage also was repaired at that time.

However, some of it was due to the Panama Canal or the Welland
Canal.

- Q That is Exhibit -- Welland Canal is Exhibit 24?
- A Yes. We did not mark all of the damage in the reports on the vessel because we finished this about six this morning, but this area, this is the bottom shell replacements.
- Q I see. What is the difference between the colors?

 The green and the --
- A The green is where they did fairing but they had floors and frames to replace or refair.
 - Q Internals?
- A Internals, yes, sir. And the red areas were renewed almost entirely.
 - Q That is the bottom of the vessel?

A That is the bottom and this is the side profile, showing side damage in this area and that area.

O Where was that damage from?

A Part of it was the Welland Canal, but the earlier surveys did not indicate the extent that appeared at the time of the grounding.

Now whether they had had deformation and at the time of grounding she suffered additional damage because it was already started, I don't know. These are where the plates were replaced, though.

O And what about the middle diagram

A This is one side of the vessel. This is the port side and this is the starboard side.

O I sec.

What about the red here?

A Well, the hatches were all worked on and they are accounted for in two of the areas. All the hatch covers and coamings were also part of it and the internals here, various bulkheads had pieces replaced. Some of the flukes were replaced.

O Can you tell us what is missing? You said you didn't finish it.

A No, the fore and aft longitudinal girders in the

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

transverse floors and frames were replaced, and on top of the double bottomed tanks in the Number 1 cargo hold,

Number 2 and Number 3, some of the brackets were gone both in the upper and lower sections and some of the side framing was swept out.

O This information you are telling us about is from where?

A That came from the -- particularly the shippard bills which are more definitive, Hitachi's and also it was reviewed with regard to the ABS surveys, four or five carveys.

Q That is the repair bills which are Exhibits 28 through 31 and the surveys 24 through 27.

A Yes, sir.

Q Now my question is, is that prior damage a possible source or cause of progressive flooding?

A If improperly repaired, yes.

Q Does that include the double bottoms that you referred to?

A No. I didn't show the double bottoms.

Q Was there any damage to double bottoms?

A In areas, in local areas.

Q And are they a possible source of progressive flooding?

A Yes.

3

5

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- 2 Q What about bulkheads? Were the bulkheads repaired?
 - A Yes, there were new pieces put in several of the bulkheads and most of them required some refairing.
 - Q Is that a possible source of progressive flooding?
 - A Yes.
 - Q Let me see that plan again.
 - You said that about 50 percent of the bottom was damaged forward.
 - A Yes.
 - Q Would you show us exactly where you mean.
 - A Well, on the starboard side, I have got this backwards.
 - Q This is the bow?
 - A Yes. I don't know why he's got starboard. On the port side, it's gone all the way through here, and under Number 1 -- well in the Number 1 hold and into Number 2, both sides is gone.

Now there is minor refairing, all I wanted was the major plates that were refaired. We got into a diagram here which I started to block out all of the items on the repair list, and I just got into the forward section and it got so horrendous, I started working in Number 1 and Number 2 hold and every line there is either a new structure or repaired one. These are the bottom.

3

4

5

6

7

8

9

11

13

14

mb 1 m

THE COURT: The record doesn't show what the witness is talking about.

Gilbert-direct

MR. JACOBSEN: Yes, thank you, your Honor. I would like to have this marked for identification; the plan that shows the repairs.

THE COURT: In color?

MR. JACOBSEN: In colors.

(Plaintiff's Exhibit 60 marked for identification.)

This new plan that you are talking about --

MR. JACOBSEN: We better mark this for identification also.

(Plaintiff's Exhibit 61 marked for identification.)

Referring to the new one now, Exhibit 61 for identification --

A Yes, this was just at the start. We were trying to determine what damage occurred particularly in the areas of 1, 2 and 3 holds. And I got into marking the frames that were replaced or repaired, and each of these slash marks that is dark is either -- is usually -- a dark one is a repair or a replaced frame or floor, and the dotted ones are just repaired.

O What is a frame and what is a floor?

A floor is a transverse, like a beam in a house or joist, and in this vessel it's a double bottom that separates

XXX

10

12

XXX

15

17 18

16

19

20

21

22

23

24

the bottom shell from the inner bottom where the cargo is carried on top.

And it got pretty messy. The inner bottom in

Number 1 cargo hold, for example, was badly distorted. There

were bulkhead replacements on the bulkhead between Number 1

and Number 2 hold. Part of the bulkhead down in the deep

tank was replaced. All of the fore and aft stringers or

girders in the inner bottom, the deep inner bottom of Number 1

hold were replaced.

Now this drawing that you got underneath the bottom, is that the bottom plating?

A Yes, these are just the straights of bottom plating.
It matches this (indicating).

O I see.

Have you evaluated the condition of the ANTONIOS

DEMADES after Number 1 hatch failed, and the hull filled with
water?

A Yes, we prepared, based on the liquids taken aboard, and an estimate of the liquids consumed to the point of the casualty, and this utilizing or taking into consideration the radio messages from the vessel, from day to day.

Q Those are the ones we have been talking about?

A Yes. We arrived at a condition for the vessel at the time of the casualty. This is prior to Number 1 hatch

3

4

5

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

2 going through.

Then we prepared, assuming Number 1 hold was filled in all the conditions, we then allowed the vessel through a computer program on flooding to fill Number 2, and Number 3, combinations of Number 2 and Number 2 double bottom and Number 3 and Number 3 double bottom, to describe both the stability and the amount of liquid that entered the vessel, and whether she would stay affoat.

- O And this has been done since Friday, has it not?
- A Yes.
 - Q You say you used a computer?
 - A Yes, we programmed it.
 - Q Is that the way you normally do that?
 - A Yes. By hand it's an awfully long job.
 - Q What is the first one you have?

A The first condition is just with Number 1 hold filled to the top of the hatch. This is at the time of the casualty in Number 1 hatch.

MR. JACOBSEN: I have an extra copy of this if you'd like to use it, your Honor.

- O How much sea water did you assume in Number 1 hold?
- A Number 1 hold, with the reduction for the cargo in it, is 2291.4 metric tons of sea water to the top of the hatch coaming.

- O How did you arrive at that answer?
- A We had the -- we work out the hatch -- hold capacities.
- Q It's filled or mostly filled with prolerized scrap, is it not?
 - A Yes, she had about 2,000 tons of prolerized scrap.
 - Q And you took that into account?
 - A Yes, we had a permeability.
 - Q Where did you get your permeability?
- A We obtained scrap densities from the cargo surveyors; and prolerized normally is -- if it's compressed, is about 32 cubic foot per ton, and I believe we used less in this. We used 45, I think. It varied from hold to hold depending on whether it was Number 1 scrap or what.
- We took a conservative permeability. We used .932 which is literally, we said that very little volume in the hold was taken up with scrap.
- Q You burned off bunkers from Panama to the time of the Number 1 hatch incident?
 - A Yes.
 - Q With Number 1 hatch filled, what did you find?
- A Found that the vessel had a GM, that is positive stability of .238 meters, and a freeboard of about seven foot-

Does that mean she'd sink or remain afloat?

What is the next condition you examined?

No, she'd remain afloat.

21

22

23

24

25

water.

0

Λ

Q

Number 3 hold were flooding through progressive flooding, and we tried to determine to bring her again to the condition where they were ready to abandon ship. In other words, where the water reached the front of the superstructure; and we had approximately 5290 metric tons of sea water and we still had positive stability, and the holds were approximately 50 percent full of water. In other words, she could have 50 percent in Number 2 hold and Number 3 hold and Number 1 hold filled.

- Q And still remain afloat?
- A Well, she's down pretty good but she --
- Q How much freeboard with that condition that you just mentioned?

A Well, that's when her freeboard disappears. That's when the deck goes under.

Q Does she or doesn't she have buoyancy?

A She has buoyancy. She just stays afloat, but her deck's under.

O Did you do any more condition studies?

A Yes, we then took and added the inner bottoms. We started back. We finished the Condition 4, which is Number 1 hold filled, Number 2 hold filling, and Number 2 double bottom filled.

O What is the result then?

A Again we brought it back to this condition where we had the vessel was still afloat, and we still had positive stability, and we took on approximately 4500 tons.

O Did you calculate how much sea water was required to sink her?

A Yes. It varies depending on which compartment. Between 4 and 5,000 tons.

O Between four and five depending on which arrangement of flooding you use?

A Yes, the further forward you go with the weight, the quicker she goes, except that the forepeack is so small and it's subdivided that it doesn't really count. We only have 742 tons up there. We originally did conditions with the forepeak but dropped it.

- Q Can you tell us how much tonnage of sea water is required to sink her with Number 1 flooded, and 2 and 3 flooding?
 - A The holds, not the double bottoms?
 - O Yes, just the holds.
 - A About 5200 tons.
 - O Does this include what's in Number 1?
- A No, Number 1 is another 2291, so it's actually 7400 tons.
 - O 7400 long tons of sea water?

2

3

4

5

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- A Metric tons.
 - Q Metric tons of sea water to sink her.
 - A Yes.
 - O In that arrangement.
 - A In that arrangement.
 - 0 1, 2 and 3.
 - A Yes, sir.
 - O Then what about if you introduce the flooding of the double bottoms?

A That is a condition we described as 3-A. We have Number 1 hold flooded, double bottom Number 1 flooded, hold Number 2 and 3 flooding and double bottoms 1 and 2 flooding.

Q I see. That is the condition you are referring to is with the double bottoms as well as 2 and 3.

I'm sorry, that condition was not finished up.

A 2 and 3 as well as Number 1 and Number 1 double bottom. I have a condition with Number 1 double bottom empty, I believe, and Number 2.

Q 2 and 3. That is the one I am asking about, because that is the testimony of the third engineer, that they were pumping out Number 2 and 3 cargo holds and 2 and 3 double bottoms.

A Sorry, I don't have that exact condition.

' . MR. JACOBSEN: We better mark that, too.

MR. JACOBSEN: Yes, your Honor. That is 54.

Q Referring to the third engineer's testimony, the part that says that they were pumping out after the Number 1 hatch incident, they were pumping out holds Numbers 2 and 3, and double bottoms 2 and 3, can you tell us why progressive flooding would occur there?

A You'd have to have sea water entering from Number 1 hold.

- Q How would that happen?
- A Through failures in the structure.
- Q Can you tell us the difference between a vessel like the ANTONIOS ballADES, with the Number 1 open, the Number 1 hatch open, sailing into the seas, as compared to sailing out of the seas? What effect would that have on progressive flooding?

'MR. ALLEN: Your Honor, I don't think this man is qualified as a mariner or a navigator. He is a ship designer, I believe are his qualifications.

MR. JACOBSEN: This is a naval architecture question.

THE COURT: Do you wish to question him about this, Mr. Allen?

MR. ALLEN: I would, your Honor, yes.

VOIR DIRE EXAMINATION

			-	
**	٠ŀ	•	1	m
11	11	,		211

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

BY MR. ALLEN:

- O Have you had any sea experience?
- A Yes, sir.
- Q How much? I mean, I am talking out on the ocean and now, not up on the Great Lakes.
- A I saw a lot of Canada last year on a trip; and mostly shakedown and trials.
 - Q Did you run into any violent weather on that?
 - A On the smaller vessels we go looking for it.
- Q Now wait a minute. On this trip you just described, this ocean and voyage that you said you made last year --
 - A Yes, sir.
- Q Did you experience any heavy weather, I mean really heavy weather?
 - A 25-foot seas and 45- to 50-knot winds, that's all.
 - O Were seas breaking over the deck
 - A Yes.
 - O Where was this?
- A This was coming out of the Gulf of St. Lawrence heading for Newfoundland.
- Q Is this the limit of your experience with this situation in the open ocean?
 - A No, I have been on many vessels in the open ocean.
 - O I am talking about experiencing storms with seas

4

5

6

9

10

11

12

13

14

15

16

17

18

19

20

21

22

2 breaking ove

breaking over the deck.

A Yes, the worst storm I have been in is off Nova
Scotia, where we had 45-foot seas and hundred-mile-an-hour
winds for three days. That was the worst.

. Q How many trips in all have you had where you have experienced this heavy water?

A That particular time that's the only time. In regular heavy weather which we call normal, probably six or seven times.

Q And on the basis of that, do you think you are qualified to say what would happen if particular seas came aboard the ANTONIOS DEMADES which you have only seen on plans?

A I believe I would assume or answer it as a technical question, as opposed to an operating question.

Q Then you are just going to give a technical answer, not an operating answer; is that right?

A Yes.

MR. ALLEN: Then let's hear that.

MR. JACOBSEN: Your Honor, my question goes, it's a naval architecture question.

DIRECT EXAMINATION CONTINUED

BY MR. JACOBSEN:

Q What is the effect of progressive flooding with a vessel like that compared to going into the seas with

23

24

Number 1 hatch open and going out of the seas with Number 1 hatch open?

A I don't see that it would make any difference if she is tight.

Q But what if she is not tight?

A Going into the seas would probably, if there was progressive flooding through the vessel, continue to add sufficient sea water to keep up the flooding.

Q What about going out of the seas?

Well, running downsea, you probably would have less -- certainly less violent boardings of the waves, and not as much.

Q Referring to the ANTONIOS DEMADES and her increase of draft, say, of 24 inches as a consequence of the 1966 Load Line Convention, can you tell us what effect that would have on her speed?

A It would reduce it.

Q Can you estimate it for us?

A I did a very rough check and I figure she'd probably drop a half a knot.

O What about with the 32-1/2 inch increase such as at Boston? That goes still to the summer.

A She'd probably maybe three-quarters of a knot.

MR. JACOBSEN: No further questions at this tire,

18

19

20

21

22

23

24

25

Where did you get that information? Q That is off the general arrangement plan and the Λ hatch -- general arrangement plan and the MacGregor notes I believe. They have a -- just the general arrangement plan.

195

any requirements by the ABS?

Yes, it requires that it be approved by them. Λ

And are there any other requirements?

If it's a change from the original concept of the

If there were any alterations effected, are there

24

Λ

No.

d And in the depositions you have seen references to

1 149 a

1 mb 1m Gilbert-direct 197 2 five sections on the hatch? 3 Yes. Λ MR. JACOBSEN: Thank you. 5 (Witness excused.) 6 MR. JACOBSEN: Captain Patterson. 7 RICHARD OAKES PATTERSON, 9 recalled as a witness by the plaintiff, having been previously duly sworn, testified further as follows: 11 DIRECT EXAMINATION 12 BY MR. JACOBSEN: 13 O Captain, what is the Great Circle distance to Japan 14 from Panama? 15 A I don't have my figures here. 16 0 Do you have a conv of this? 17 A I left it over in my briefcase. I think I need it 18 again. 19 7682. Pardon me for the delay. 20 MP. ALLEN: 7682? 21 THE WITNESS: Yes, sir. 22 Have you calculated how far it is from Panama to 23 where the ANTONIOS DEMADES would have entered the winter zone on a Great Circle course?

Yes, sir, I have.

J 150a

1	mb 1m	Patterson-direct/cross 199				
2	· Q	36 feet-one?				
3	Λ	36-one, 3503.6.				
4	Q	How does that compare with the permissible winter				
5	draft?					
6	A	She is overloaded on it.				
7	ú	How many inches?				
8	٨	Overloaded by about ten inches.				
9		THE COURT: Has the witness answered the last				
10	question?					
11		MR. JACOBSEN: Yes.				
12	Q	How much was it again, Captain?				
13	Α .	She would be overloaded by about nine inches.				
14		MR. JACOBSEN: Cross-examination.				
15	CROSS-EXAMINATION					
16	BY MR. ALLEN:					
17	0	This business of figuring the winter draft is merely				
18	an exercise in calculation because the ship never did go into					
19	the winter zone, did she?					
20	Λ.	No, sir, she did not.				
21	Q	All right, so we are only when we are trying to				
22	determine	e if this ship was overloaded, we are only interested				
23	in summe	r draft, aren't we?				
24	A	Yes, sir, that's right.				
25	ď	One more calculation, Captain: Did you calculate				

the miles or the additional miles if she had gone to Japan
by starting out on the Great Circle course and then whenever
she got to the winter line skirted the southern edge, so
that she'd always be in the summer zone? Did you calculate

6 that?

A No, sir, I did not.

Q Would you think that would be more than a few hundred miles additional?

A At the moment I'd say probably maybe 150, without any calculation.

Q Yes, about 150, 200, giving it a round number.

One further question, Captain: In your calculations, I think you agreed that these ships could burn diesel.

Did you consider --

MR. JACOBSEN: Objection.

MR. ALLEN: All right, you are objecting to the question.

Q Let me ask you this. I will withdraw that.

In your calculations, did you consider the diesel oil on board as available fuel?

A No, sir, I did not.

MR. ALLEN: That's all.

MR. JACOBSEN: No further questions, your Honor.

THE COURT: We will recess until tomorrow morning

7

9

11

10

12

14

15

16

17 18

19

20

21

22

23

24

2 | 1

JOHN W. GILBERT, resumed, having been previously duly sworn, testified further as follows:

BY MR. ALLEN:

q ''r. Gilbert, yesterday you testified as to some draft calculations you made as the ship went down to Panama. Did you also calculate the draft on February 6th, the day when the ship had her disaster?

A Yes, sir.

Q Did you find at that time the ship was not below her summer marks?

A That is correct.

Q So that there is no question, is there, that this ship was not overloaded when the storm struck, was she?

A No.

O All right. And as far as those draft figures going down to Panama were concerned, I think you agreed that you took some estimates of figures that you did not have available; isn't that so?

A No, I took the simates that were provided us both from the fuel consumption rate, from the draft surveys on departure and arrival, and the ordering information they had in Cristobal when they rebunkered.

'O But didn't you also make some estimates as to

	MR. ALLEN:	I am not sure they are available with
the	company that owns	the ship, because we asked for every-
thin	ng that they asked	us for. We gave them everything we
coul	d put our hands or	n.

MR. JACOBSEN: You couldn't put your hands on the lines plans and that is the point. We don't have them. We asked for them and this man had to develop his own from the information that you did provide us.

MR. ALLEN: All right, I will accept that, but I don't want any inference that we were holding back the plans, and I think it's proper to say that he has used some assumptions.

MR. JACOBSEN: I am not suggesting anything. I am telling you that you did not give us the lines plans.

MR. ALLEN: And we didn't have them.

All right.

O When this subject of the American Bureau of Shipping -- are you familiar with that organization?

A Certainly, yes, sir.

Q Do they enjoy a good reputation?

A Yes.

O They are one of the better classification societies, are they not?

A Yes.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

25

- Q Their standards are as high as those of any -- of similar organizations in the world, aren't they?
 - A I would think so.
 - O You are familiar with their work?
 - A Yes, we work with them all the time.
- Q And when their surveyors make a report, haven't vou found that they are reliable and can be depended upon?
 - A Generally, yes.

THE COURT: Is this a government agency?

MR. ALLEN: No, sir, it's a private agency, the American Bureau of Shipping. It's one of the world's large classification societies that inspects ships just as Neue Deutsch Lloyd and Bureau Veritas and a number of them.

- Q You reviewed the American Bureau surveys for this ANTONIOS DEMADES that have been put in evidence here, didn't you?
 - A Yes.
 - Q And didn't you find them satisfactory?
 - A They were very complete.
 - Q Yes, and you reviewed the renair bills?
 - A Yes.
 - O In connection with this repair period?
- 24 A Yes.
 - Q' And didn't you find those bills to be proper and

Gilbert-cross

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

complete?

Yes, the format of the bills was very complete.

All right. 0

And did you look at the on-hire surveys that were conducted in Vancouver about six months before the voyage and also the on-hire survey at New York just before the ship went on this final voyage?

A Yes, I have looked at both of those.

And did you find from those surveys that the ship was in good condition?

A The survey completed in Vancouver was very definitive in the condition of the vessel, which indicated at that time there were ladders, structural damage, and I believe repairs to at least one of the hatches.

Q But that had nothing to do with the seaworthiness, the watertight integrity, did it?

A I believe he was asking for these repairs to be made to insure that the vessel would be seaworthy.

O I don't think you heard the question. I said ladder repairs have nothing to do with watertight integrity, do they?

No. but the hatch repairs did.

Hatch repairs?

Yes.

25

I would have to resh my memory.

I will ask it to you this way: You don't know of

24

J 157a Gilbert-cross

mb1m

1

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

,,,,,,

A No.

O Have you ever surveyed a ressel that sustained internal fractures after she had grounded and been repaired?

A Yes.

Q Which vessel?

A This was the ESSO MUNCHEON.

O And this was a vessel that stranded?

A Yes.

Q When did you see it?

A Must have been about 196 --

 I mean, with relation to the repair period, after repairs, before?

A She was dry docked and I went over to look at the bottom structural failures.

Q And then during the course of repairs and you going back to the vessel until the work was completed. And when the work was completed, did the ship go to sea and remain seaworthy?

A Yes.

Q So there was no structural damage that remained in that ship, was there?

A Oh, no, no structural damage.

Q Do you have any evidence that the hatch covers in Number 1 were changed?

de

25

A Only by the depositions, in reading the depositions of the crew members.

Q In other words, the crew members testifying in Japan before someone who was taking down their statement in English, said that they thought there were five leaves in Number 1 instead of the four?

A Yes.

Q And apparently there are five leaves in all the other hatches, and on the basis of that ambiguity, that is the only thing you have to suggest that there might have been a change in the hatch cover?

A Yes, and one follow drew a sketch of it.

Yes. But if another witness said that the same hatch covers that went ashore in Japan were the same hatch covers that remained on the ship, that would be mere reliable, wouldn't it?

A Yes.

O All right.

Now, you spoke about the possibility of locked-in strains or maybe stresses was what you said. Did you find any evidence of that in this ship?

- A I never went aboard the ship or had seen her.
- O In the material that is available to you.

A No.

2

3

4

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24 .

25

Q So when you mentioned that, you just threw that out as a possibility, but you had nothing to justify its existence; isn't that so?

A As far as the locked-in strain, yes. The hatch coaming deformation is unusual.

O I am talking about the locked-in strain.

You spoke about the hatch coaming deformation and you are limited there to whatever you found in the survey reports and the repair bills, right?

A That is correct.

O Do you have any reason to believe that the American Bureau surveyor would approve and pass this ship if those hatches hadn't been properly put in line and repaired or fixed as necessary?

A His function would be to repair the observed damage, not be really truly cognizant of the overall effect on the ship.

- Q How do you know what his function was?
- A I have worked with the surveyors.
- O With the American Bureau surveyors?
- A Yes, sir.
 - O Where?
 - A Boston, San Francisco.
 - O And you say that they have a limited function and

. 7

they are not supposed to look for every possible damage affecting seaworthiness and see that it's repaired; you say they are not?

A The surveyors themselves take care of what is visual to them, the observed damage. With regard to the bending moment calculations or the overall effect on the ship, this is done in the home office.

O All right. I am just -- but you have no reason to believe that this surveyor right on the scene wouldn't have been able to see any defect in the hatches or the hatch coaming or the hatch covers and see that it was corrected before he passed the ship, he could do that, couldn't he?

A He did go through the correction.

Q All right; and so there is no reason to believe that it wasn't a seaworthy hatch when it left that yard, is there?

A No; on the basis --

Q Since you were talking about the possibility of repair damage, practically every ship that's been affoat for ten years has undergone repairs, hasn't it?

A Yes.

O And they are regularly repaired and go back to sea, don't they?

A Yes.

- Q And in practically every instance they don't suffer from those repairs, they still maintain a long usable life and stay affort, don't they?
 - A Yes, because they don't go aground.
- Q All right, we will cover that. Even ships that go aground are repaired and put back in service, aren't they?
 - A Yes.
- And there are no records that show that these ships that have grounded sustain any more casualties subsequently than others, is there?
- A In talking to captains, a ship that's been heavily damaged often does not seem to be as good as it was before.
- Nell, you say not as good as before. I am talking about something that affects the ability of that ship to stay afloat in a seaworthy condition.
 - A It can be repaired to a wholesome vessel.
- Of course, and it regularly is, isn't it, all these ships that go aground, they are regularly repaired and put back in service and live long useful lives, don't they?
 - A Yes.
- MR. ALLEN: Now may I see Exhibit 60? I think that is the big diagram.
- Q This in the upper left-hand corner is the forward section of the ship?

Let me ask you this: All the witnesses testified

2 3

1

4

6

5

7

8 9

10

11 12

13

14 15

16

17 18

19

21

22 23

24

25

don't vou? Yes, a gradually increasing starboard list. Did you take that into account?

that there was a starboard list to the ship. You know that,

And how much did you reduce the freeboard because of the list on the starboard side?

At the time Number 1 flooded they did not indicate any list in their reports. It was after several hours that they began to report a three and four and gradually increasing list.

- How much did that drop the starboard side? ()
- We didn't account for that.

Yes, sir.

You didn't calculate that.

Anyway, as I understand your testimony, this ship was practically going under with Number 1 hold filled with water, and Number 2 and Number 3 half full; isn't that what you said?

- This appears to be about what it would be.
- When it reached that condition, she was a goner in your opinion?
 - Yes, she was on her way.
 - Q Water can get into those cargo spaces from various

sources, can't it?

- A In small amounts, yes.
- O Why do you say in small amounts?

A Well, your vents, for example, which would provide a source of down-flooding, on your smaller tanks, generally have float closures on them, and the cargo hold vents in this vessel were quite high. They actually went up the king posts. The hatches not being tight would provide seepage usually.

Q Let's start with one. First you are talking about the vent pipes. If that vent pipe and the valve in it got carried away by the seas, then that pipe opening would allow the free entrance of water, wouldn't it?

A Yes.

- Q Have you seen these photographs, Exhibit I?
- A No, sir.
- Q Well you said the ventilators were up in the king posts.
 - A There are vents in the king posts.
- But didn't you know this ship had cowl ventilators right up on the mast house such as in picture Number 2?

A Yes, but they never -- in the depositions they said they were sealed or closed.

() In the depositions I think the testimony is that

mb1m

2

3

5

6

7

Gilbert-cross

they were -- that they had the cowls removed and that had been plugged and covered with tarps.

Yes.

But if the seas got to that opening, no matter what condition it had been in with the cowls shipped or unshipped, and broke its way into that vent, that would allow a tremendous amount of water into that hold, wouldn't it?

At the initial freeboards only as the waves passed over if she was being washed by the seas.

But is it -- if these openings were broken open by the wave action, and then the ship was continually exposed to seas and waves, that would be an almost continuous influx of water, wouldn't it?

Yes.

In large quantities, wouldn't it?

Well, if they were underwater, yes. A

Sure. These ventilation openings are large, they have to carry air, right?

Yes.

And water coming through one of those openings would be more than any ship's pump could handle, wouldn't it?

Any one -- yes.

All right. Q · ·

23

24

Are there any other openings where water could come in? How about sounding lines?

A The sounding tubes are normally small pipes, so --

Q They are small but if they get broken open, the water goes in, doesn't it?

A But they are a flush plate in the deck as a rule, or very small raised off the deck.

O Can you tell me why you want to give me an argument on every answer? Are you interested in the outcome of this case?

A All right, if the sounding tubes were open, then you would have flooding through them, yes.

O Thank you.

And if the doors and hatches leading from the mast house down to the hold were broken open by sea action, that would allow water to enter, wouldn't it?

A I'd have to review the plan on that. I am not sure of the accesses from the forward house.

O Let me tell you briefly that there is access to each hatch by going through a door in the mast house and then going through a --

A Vertical hatch?

Q -- a hatch in the deck.

A Yes, if that were all open, that would flood it,

1

mb 1 m

too.

3

4

5

S

7 8

9

10

11

12 13

14

15

16

17

18

19

20

21

22

23

24

25

Sure. In making your calculations as to how the ship would drop down, did you consider the possibility of the chain locker being flooded?

We ran conditions with the chain locker, yes.

And didn't that -- wouldn't that have increased the forward -- the immersion in the water up forward?

A little bit. The chain locker is quite small though.

How much did you calculate?

I'd have to go back to the old sheets. We understood from the most recent information we had that there was no knowledge of flooding in the forward end, as far as the chain locker and the forepeak tank were concerned.

Well, there is no knowledge one way or the other as far as I recall the evidence, but it would be perfectly possible for the seas to rip off these jackass covers on the chain hawse pipes and for water to get into the chain locker, wouldn't it?

Yes.

And it would also be possible for water to get in all those focsle spaces, isn't it, through various vent openings or doors; all these forward spaces in the focsle, water to get in there, too?

MR. JACOBSEN: No, your Honor.

THE WITNESS: I have one plan here, I think, that shows the water line with the foreneak flooded from before.

MR. ALLEN: All right, then I misunderstood the

18

19

20

'IR. ALLEN: I didn't ask him that.

THE COURT: I thought he said that he had not.

MR. ALLEN: He said he did not have anything with

21

him.

23

Q See, I am going to interrupt you because I didn't say anything about the focsle head. I asked you for a general statement.

A It would be easier to answer if it were specific location on the ship.

Q I don't want any. I am just talking generally now.

I am saying this --

A If the ship in general goes down deeper, the upper structure that is lighter would be exposed to the --

Q They are exposed to wave and sea forces that they were not designed to withstand if the ship was riding at her proper depth, right?

A Yes.

Q So once this Number 1 hold flooded, and the other areas that flooded, which we may know or not know about, it brought this ship farther down into the water up forward and exposed those ventilation trunks and mast houses and sounding pipes to heavy sea action, didn't it?

- A But they are supposed to take that.
- O See, you are arguing with me, sir.
- A Yes.
- O And that is why I wonder whether you really are an impartial witness. Why do you argue with me?
 - A Because --

3

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q I will withdraw that question, because I don't want to continue it, but I wish you would just answer the question. I am simply saying that as that ship goes down, these various openings that were well above the main deck when the ship is riding on an even keel and not below her marks, are now exposed to heavy sea action that they weren't designed to withstand; isnt't that so?

- A Yes, the openings are exposed.
- O Yes, all right.

And I think you said, too that the master made a mistake in deciding to continue his voyage and head west into the sea, didn't you?

A No.

MR. JACOBSEN: Objection.

A I didn't say that.

MR. ALLEN: I just asked him if he said it.

MR. JACOBSEN: I don't believe anybody said that, your Honor.

THE COURT: I don't think so.

- Q Did you have any testimony with respect to whether the ship was steaming with the wind or into the wind?
 - A Yes.
 - O Perhaps you could refresh me on what you said there.
 - A. We were talking at that time about the exposure of

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

I beg your pardon?

In this instance, it wouldn't be. It would be somewhat lighter.

Gilbert-cross .

Well, that is normal design, isn't it?

Yes, static head is about eight feet less than the side shelling.

And that is what you design for in bulkheads between spaces, in under deck spaces, right?

Yes, sir.

And what I want to get to is this: That when Number 1 hatch was opened, the waves came in directly against that bulkhead and they weren't designed to withstand that force, were they?

A Two things --

See, can you answer that question?

They wouldn't hit the bulkhead. They couldn't.

First, let's answer my question, and then your counsel will get your part in. I said they weren't designed to withstand direct wave action, were they, the inner bulkheads below deck?

The direct wave contact is not in the design of them, but they should be able to take that kind of a --

The question is this: Those superior bulkheads between cargo spaces below the main deck were not designed

2

3

4

5

6

7

10

11

12

13

14

15

16

17

18

19

20

21

to withstand direct wave action, were they?

No, they were not.

0 Thank you.

How many times have you been aboard a ship in a situation such as the ANTONIOS DEMADES where the Number 1 hatch cover was stove in and opened up?

I have never been in that situation.

O So then your comments on what the waves would do or not do when they poured through that opening are just a matter of you and your drawing board, right?

A I have been on vessels where we have gone in and out of Number 1 hatch in bad weather.

Q I didn't ask you that. I asked, all you have to go on is you and your drawing board, because you have no personal experience in that area; isn't that right?

A On a vessel, no.

And one final -- maybe not final, but did you consider the possibility of Number 1, the sections of Number 1 hatch that were stove in and twisted and tossed out on deck, did you consider the possibility that they might have in the initial penetration been thrown directly against' that bulkhead?

Λ No.

O If they had been, it would have been easy enough

24

23

5

7

8

9

10

11

12

13

15

16

17

18

2 | 07

or steel piece that's used to break up waves.

Q Referring to the bosun's deposition, Exhibit 40, page 20, there was these questions and answers:

"Question: Did this ship have cowl ventilators?

"Answer: Yes.

"Question: Were they in place on this last voyage?

"Answer: I had taken them off since Angola about six or seven months prior to that. I don't remember exactly. I took them off, I put wooden plugs and covered them with three tarpaulin covers.

"Question: That was on all the ventilators?

"Answer: In all of them.

"Question: When you sailed from Boston, did you do anything to cover up the opening to the chain locker?

"Answer: First we put burlap. We put it around the chain, and then you put it about three fingers below the opening, and you fill it with cement.

"Question: Did you do that?

"Answer: Yes. The ship cannot proceed without doing this covering of the openings.

"(uestion: And you did it on both sides?

"Answer: Surely."

How effective is that method of closure?

A Very good. The chain pipe with the cement in it?

19

20

21

22

23

24

24

25

Gilbert-redirect

256

Yes.

mb 1m

- O And the cowl ventilators being plugged?
- A That would seal them.
- O If the plugs had failed, what effect would this have on the rate of sinking?

MR. ALLEN: Your Honor, I object. There is no testimony of any plug failure.

MR. JACOLSEN: I didn't sav there was, your Honor.

O I said if they had failed, if sea water had entered through the plugs, through the cowls, the ventilation ducts, what effect would this have on the rate of sinking?

A The ship would sink very fast.

Q Would it be required to have the deck hands go in there?

A I am not sure if they were plugged at the mast house or deck level. I believe they were taken off at the top, which would be the top of the resistor house.

Yes, they are about -- the place where you plug them would be about six or seven feet above the deck. You'd have to be quite deep to get down flooding.

You were asked about the list. Was there a list when the ship left Poston?

A Yes.

O llow much was that list?

1	mb	1	m	
100000000000000000000000000000000000000		-		

Gilbert-redirect

2

that loading manual was all right for this voyage or not all right?

- It didn't apply to this voyage.
- Why not? 0

Because it doesn't take into account the increase in displacement allowed for the vessel, increase in cargo.

- Referring to the 1965 Load Line Convention?
- That is correct.
- And the increase in draft for the ANTONIOS DEMADES is reflected in Exhibit 59?
 - Λ Yes. .
- When you are talking about bending moment, then, for this vessel, for the voyage in question, the last voyage, what did the ship's officer have available?

MR. ALLEN: I object, your Honor. He doesn't know what the ship's officer had available.

- 0 With respect to Exhibit 14.
- A . I don't know.
- What did he have in Exhibit 14? How far could he go with the loading?
 - I don't know what he could do. He didn't have it.
 - He didn't have it?
- A He didn't have one that was for the vessel as she was as she is now or for the '66 Load Line.

7 8

3

5

6

10 11

12

13 14

15

16 17

18

19 20

21

22

23

24

- Q What is the significance of that?
- A It wasn't provided.

MR. ALLEN: Your Honor, I object to these conclusions by a witness who doesn't know any facts and just sheer speculation.

MR. JACOBSEN: He has all the facts there are in this case, your Honor, all the exhibits.

MR. ALLEN: He doesn't know what the ship was provided with or not provided with. He never went near the ship.

MR. JACOBSEN: Yes, he does. We have the loading manual. The second officer testified that this is the one that was on board.

THE COURT: Yes.

MR. JACOBSEN: Exhibit 14.

THE COURT: That loading manual is geared to a time prior to the 1966 increase?

MR. JACOBSEN: Yes, your Honor.

THE COURT: Has it been revised?

MR. JACOBSEN: No, your Honor.

THE COURT: Since 1966.

MR. JACOBSEN: No, your Honor.

THE COURT: Who puts out the loading manual, the

25 ABS?

6

7

8

1

2

3

4

5

9

10

12

14

15

16 17

18

19

21

00

22

23

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

BY MR. JACOBSEN:

Who puts out the loading manual, "r. Gilbert?

It's prepared usually by a design agency for the shipyard that built the vessel, and it's approved.

Is there a requirement, an AB., requirement?

THE COURT: Is there a separate loading manual for each ship?

MR. JACOBSEN: There should be one on each ship.

Yes, they make --

THE COURT: But is it separately prepared for each ship or kind of ship?

MR. JACOBSEN: Yes, your Honor.

Is that correct, Mr. Gilbert? Q

A Yes.

Now. 13 there an ABS requirement in this respect? Q

Yes . Λ

I refer you to Exhibit 42, Pule 6.9 and 6.11. Q

Λ Yes.

What is the requirement? 0

In general, still water bending moment calculations for anticipated loaded and ballasted conditions are to be submitted for vessels having lengths more than 122 meters.

How many feet is that?

That's 400 feet. And then it defines in detail

22

23

24

Gilbert-redirect

what is to be provided in the manual.

In 6.11 it says in general a loading manual is to be prepared and submitted for review in the case of vessels of Type 2 through 4 inclusive, for which still water bending moment calculations are required by 6.9.

This manual is to show the effects of various loaded and ballasted conditions on the longitudinal bending moments and is to be furnished to the master of each vessel for guidance.

Q Now you testified you don't know how the sequence of loading was performed.

A No.

n llave you found anything in any of the material you have looked at, in the exhibits, that indicates how the sequence of loading was performed?

No, we only have a final statement as to the loading.

Q Referring to the plans that we have been talking about, what is the significance of the lines plans? What are they needed for?

A It was needed to develop the volumes of the various compartments in the vertical and longitudinal centers, and to establish the curve of form or the cross curves of stability and the hydrostatic curves at various times which are not on

3

5

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

As far as deformation is concerned, it's referred to in the ABS surveyor's report in Japan, deposition Exhibit 23, survey Exhibit 26, what tests would be performed, could be performed to check for any permanent deformation.

- A You mean on the overall ship or on the --
- On the overall ship.
- A They would have to survey the vessel with a transit.
- O What is a transit.

A Well, it's like a telescope with a sight, and then you have to take survey marks on the vessel.

Q Referring to the defermation of the coamings and the hatch covers, on all the harches, as a result of the grounding at Quito Sueno Bank, it is described in Exhibit 26, can you tell as whether this is a possible cause of the subsequent failure of the hatch cover on February 6?

A It's a possible cause, yes.

THE COURT: What was that question again?

MR. JACOBSEN: It was can you tell us whether this deformation of the coamings and the hatch covers on all these hatches, including Number 1, was a possible cause of the subsequent failure on Feburary 6, 1970.

A It could be a possible cause, yes.

THE COURT: Has the witness testified that there was any deformation?

| |

1

2

3

5

6

7

9

10

11

12

13

14

A On high density cargo such as iron ore you are required to load in alternate holds or you will end up --

O The point I am making, never mind the density, we are just talking about the weight in the hold at the moment. You can do it in alternate holds and still this ship is a rigid, strong ship, isn't it?

A That is correct.

Q And the loading manual that you have seen, even if you assume this was the only available one, was good right up until the last 2,000 tons, wasn't it?

A Yes.

Q Are you familiar with the American Bureau rules on loading manuals?

A What I have read in the rules, yes.

Q Don't you know that the load line certificate will not be endorsed unless the surveyor is able to see on board an up-to-date loading manual?

A That's what I understand, yes.

Q And you know that this ship had a load line extended at regular periods, don't you?

A Yes.

Q You have seen that. You said you had no information on the sequence of loading, but you do have the sequence of loading insofar as breaking it down between the ports of

15 16

17 18

19

20

21

22 23

24

21

22

23

24

25

Gilbert-recross

290

A Oh, no, no, you can't.

Q All right.

mb1m

Then I think we are finally cleared up now -- back to Number 26. Did you read the last pape where Mr. Omachi, the surveyor, said:

"All above recommendations were carried out at this time, examined, and found satisfactory."

A Yes.

Q You don't have any reason to disbelieve that, do you?

A No.

On Then are we agreed that despite all the arithmetic with respect to this repair period, this owner spent well over \$300,000 in repairing this ship in Japan?

A Yes.

Q That is a substantial sum, isn't it?

A Yes.

Q One final question: Having to do with the fuel, and did you say the injectors or the adapters?

A The injectors --

Q The injectors. I think you said that if you wanted to switch over from IFO to diesel, you would have to switch the injectors and that would be maybe a six-hour job.

A Yes, sir, you change the tips.

J	1	8	1	a

mb1m

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Gilbert-recross/redirect

291

- O All right, change the tips.
 - Now, isn't it possible to change them one at a time and keep the engines running?
 - A I don't know on the Fiat.
 - O You don't know.

Isn't it also true that if you find yourself coming down to the point where you know you are going to have to use some of the diesel as well as the IFO, that a good engineer starts mixing it several days ahead of time and he doesn't have to change the tips?

A That's possible, yes, sir.

MR. ALLEN: That's all.

MR. JACOBSEN: Just one question.

REDIRECT EXAMINATION

BY MR. JACOBSEN:

- O Mr. Gilbert, where did you ascertain the ship had a list when she sailed from Boston?
 - A From the draft survey.
 - Q Is that Exhibit 8?
- Α 6.
- Q Exhibit 6. And is that information also in Exhibit 8, the draft statement?
 - A I'm not sure. Yes, this is it.
 - Q And who is that signed by?

MR. ALLEN: Mr. Blackeby.

JOHN R. BLACKEBY, called as a

witness by the defendant, being first duly sworn,

testified as follows:

DIRECT EXAMINATION

BY MR. ALLEN:

Q What is your occupation, sir?

A 1 am the corporate secretary of the American Bureau of Shipping.

Q And will you tell us what the American Bureau of Shipping is.

A The American Bureau of Shipping is a technical classification society which establishes standards for the construction of merchant vessels and administers those standards impartially.

Q And can you tell us just how you go about administering those standards with respect, say, to a vessel under construction and a vessel in service?

A We have a technical staff who review plans for the construction of vessels before they are built. We have inspectors in the shipyards who see that the ships are constructed in accordance with our requirements. We have inspectors in steel mills and manufacturing plants for

J 183a

mb1m

1

3

4

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Blackeby-direct

298

2 | correct?

A They are.

You recall when this ship was last surveyed prior to her sinking?

A The records would show the date of the last survey.

I am not familiar with that.

MR. ALLEN: Maybe Mr. Jacobsen will agree that this Japan dry dock period was the last classification inspection.

MR. JACOBSEN: That's right, it was the special survey.

MR. ALLEN: It was a special survey and the annual survey and the load line survey at the same time.

MR. JACOBSEN: At the same time in December '68 and January '69.

MR. ALLEN: That's correct.

Q And can you tell me whether or not the ANTONIOS DEMADES was always in class with your Bureau from the time she was built until she sank?

A Yes, she had been maintained continuously in class.

Q And you are the custodian of the records that establish that?

A Yes, sir.

O These records are sent to you from around the world in the regular course of the American Bureau of Shipping and

2

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- A Remaining ships do, to the best of my knowledge.
 - 7 This is a copy of Exhibit 18. Can you tell me what that report is?

A This is a part of what's known as the hull classification report.

- Q And can you tell me what Exhibit 21 is?
- A Thi a survey status telex from our New York office to our rokyo office.
 - O What is the purpose of that telex?

A The purpose of that telex is to advise the people at Tokyo as to the status of the vessel, which surveys are due, et cetera.

- O Will you tell me what Exhibit 58 is.
- A 58 is the international load line certificate.
- Q Issued on what date, sir?
- A Issued on the 24th of January, 1964.
- Q And is Exhibit 59 a similar certificate issued May 26, 1967?
 - A Yes, it is.
- Q And then Exhibit BB, is that a similar certificate issued April 15, 1969?
- A Yes, it is.
- Q So this ship was constantly classed properly with respect to -- or had a constantly effective load line

		J 1854	
1	mb 1 m	Blackeby-direct/cross	301
2	certifica	ite, didn't she?	
3	Λ	Yes, she did.	
4	ú	And will you tell me what Exhibit A is.	
5	Α .	This is the report of the annual load line	inspec-
6	tion carr	ried out in Osaka, Japan, on January 29, 1969	
7	ú	And does that show everything was in satisfa	actory
8	condition)?	
9	٨	Yes, it does.	
10	0	And will you tell me what Exhibit M is.	
11	Λ	M is a certificate which we call a confirmat	tion of
			tion of
12	classific	cation certificate.	
13		'IP. ALLEN: That's all.	
14	CROSS-EX	MINATION	
15	BY MR. JA	ACOBSEN:	
16	ú	Mr. Blackeby, you have never surveyed the A	NTONIOS
17	DEMADES	vourself?	
18	٨	No.	
19	O.	And you haven't examined any of the survey	reports
20	that have	been rendered with respect to that vessel?	
21	Λ	No. The only thing I have examined is the	reports
22	to see th	nat I produced them.	
23	0	I understand. In other words, you don't an	al v70
24			aryze
24	the repor	rts as they come in.	

A No.

Λ Yes, I do.

19

20

21

22

23

24

25

. O What are they?

I hold a United States master mariner's license, any oceanic tonnage, 6 issue.

I hold Panamanian, Liberian, Nicaraguan licenses, and also Panama Canal pilot.

Can you give me a summary of your background dwelling on your experience at sea and your connection with

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

maritime matters.

A Yes, I have -- going through the grades of my licenses, I was a master at age 25. I sailed approximately 12, 13 years in command. I have been in management a great deal of the time, and I am now a marine consultant dealing with technical matters for both management and labor.

- O Ho a had any experience with the Panama Canal?
- A Yes, I have.
- 0 What is that?
- A I was a pilot there for four years.
- Q Are you familiar with their rules and regulations?
- A Absolutely.
- O Captain, at my request, did you calculate the brukers that would be required for the ANTONIOS DEMADES to sail from the Panama Canal to Yokohama?
 - A Yes, I did.
- O And what figure did you come up with which would be required for that ship at normal steaming speed and at the normal consumption?
 - A Well, may I refer to my notes?
 - Q Yes, please do.
- A Read on information of the vessel's particulars, and I took a most conservative view, that is I took the maximum speed at the maximum consumption, which was 35 tons

3

4

5

6

7

8

9

10

11

12

13

14

1.

16

17

18

19

20

21

22

23

24

25

305

1	mb1m

Fertig-direct

a day at 15 knots, I computed the distance not Great Circle, but to -- in fact the route that she took, which was 7,830 miles, and that was 23.3 steaming days at 15 knots.

At 35 tons, that made a requirement of 815.5 tons.

- Would this ship also burn diesel in that same trip?
- Yes, she burned approximately one and a half tons of diesel per day.
- So for the same period, how many tons of diesl would she use?
 - She would -- the diesel would be approximately --· A
 - My notes show 35 tons. 0
 - Well, I have 34 point something, yes, 35 tons. A
 - All right. 0

Now, I think you said you didn't take an exact Great Circle route.

> A No.

- And I requested this routing, did you take Great Circle up until you reached the winter load line marks, and then kept her south of that area?
 - Yes, I did.
 - That would be an acceptable course, would it not?
 - Absolutely. ٨
- Do you have the figures from Exhibit Q which show that the ship sailed with 1,006 tons of IFO and 124 tons of

1

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

diesel?

Yes, I do.

With those quantities on board, and using the amounts which you calculated would be burned on the trip, how much reserve was on board?

A Well, if she has steamed her -- the full distance at the maximum speed, projected speed, and burned the maximum amount of tons according to her particulars, the vessel would have arrived at her destination, exclusive of diesel, with 191 tons.

- O You say exclusive of diesel. Is it proper to figure in the diesel as part of the reserve for this ship?
 - A Well, yes, on a diesel ship, absolutely.
- Q In other words, could this diesel oil have been burned in the main engines?

A Absolutely. In fact it's far more expensive and it's a desirable thing to do.

O So you say that as a matter of practice and experience, in a similar situation it is proper to calculate the diesel as part of the reserve.

- Yes. However --A
- 0 Excuse me.

However, in this case there was no need to. There was plenty of reserve.

23 24

3

4

5

6

7

8

9

10

11

12

13

14

15

16

.7

18

19

20

21

22

23

24

25

- Q Let's go all the way. You say there was plenty of reserve even without counting the diesel?
 - A Yes.
- Q Including the diesel, was there a reserve in excess of 25 percent?

A Oh, yes. In fact I believe -- yes, my figures show there was a 27 percent reserve.

- Q In steaming time, what does that amount to?
- A You mean the additional reserve?
- Q Yes, the reserve.

A Well, the additional reserve would have given me an additional six days.

- Q Six days?
- A Or five days, I'm sorry.
- Q Five or six days.
- A Five to six days.
- Of steady steaming day and night at the full speed, right?

A Yes. But it's my understanding that the vessel wasn't always full speed.

Q Let me put it this way: Even if the ship had found herself running short of fuel, could she have reduced speed and thereby gotten more miles per gallon, to use a phrase?

A Yes, because the consumption is cubed as the speed is accelerated, absolutely.

Q There was some testimony that it is customary in computing bunkers for a projected voyage to deduct a percentage for sludge. Is that correct?

A Not on diesel ships. That may be true on steamships where they are burning Number 6 fuel oil, a very heavy
fuel oil; but I think you have to remember first of all that
diesel fuel is a great deal lighter than Bunker C fuel, and
that heat is kept on this cargo all the time.

In general practice, if any deduction has to be made at all, the acceptable limits of the industry are one half of one percent.

O You spoke about diesel oil. Would that apply to IFO, which is what this ship was burning?

A Well, yes, I mean that's a form of -- it's a lighter fuel. It's not Bunker C.

Q It's a lighter fuel than Bunker C; is that right?

A Right, yes.

o If on a projected boyage you found that the IFO was running short, and you might have to use the diesel, is it necessary to change the injectors?

A Well, it's my understanding that if you -- that you can run them for a short time. I mean using the diesel fuel

exclusively; that you can rum it a short time without changing your injectors.

Fertig-direct

But if -- I think that any prudent ship master, knowing that this condition was about to exist, would have pre-mixed his fuel, which would then have required no changing of injector tips.

O Is it possible to change injector tips in sequence so as to keep the main engines running all the time?

A Yes, you can by-pass your injectors as you go and change them at sca. I have been on ships where we have done that a number of times.

- O So it isn't necessary to shut down the main engine.
- A Not at all.
- Q There was also some testimony about the method in which the chain locker was secured against the sea; and I think the testimony was, Captain, that burlap bag was pushed in around the hawse pipe opening, and then that was cemented.

Is that a customary method?

- A Oh, yes.
- O Are you familiar with that?
- A Absolutely.
- O Can you express an opinion as to whether that type of packing would or would not withstand heavy pounding seas on that area?

showed you, I think it's the information and quarantine declaration in Exhibit 33, is this the one?

MR. ALLEN: Yes. The draft indicated there is 34 feet-5 inches forward and 35 feet-3 inches aft.

O That is an arrival draft at Cristobal; is that right?

A Yes, but I'd like to qualify that if I may. I think that everybody that goes to sea knows that the Cristobal, even though it's behind a breakwater, is very choppy waters; and the boarding party comes aboard and they take a cursory look around the vessel and get what they feel is an accurate draft. However, the official draft of the vessel is taken when she rests in the first set of locks in still water.

Q My question is, do you have another draft? This is the only one we have.

A Well, I have one by computation.

O No, I mean a draft at --

A Of record?

O At l'anama, yes.

A No, sir.

Q There is another draft in this same exhibit by the pilot, which is 38 feet; isn't that correct, the one on the ship condition report?

Q Thank you.

Now you were here, were you not, when Mr. Raguso testified. Were you here when he testified?

A Yes, I was here.

Q Did you work with the same basic weather charts and weather data from the Mariner's Weather Log that have already been marked in evidence?

A Yes, I used the same information as Mr. Maguso did.

O These are the Government reports from the weather reporting stations and ships that are all assembled by our Government and made available to meteorologists; is that correct?

A Right.

MR. ALLEN: I don't think we have yet marked the Mariner's Weather Log. This is a valuable copy. I wonder if instead of the whole log, we can mark the pages 222, 223 and 239 as Exhibit V. That has been premarked; and I will offer it in evidence.

MR. O'REGAN: No objection.

MR. ALLEN: Thank you.

(Defendant's Exhibit V received in evidence.)

Now sir, using that same basic information, did you plot and analyze this storm which the ANTONIOS DEMADES

xxx 22

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Kaciak-direct

both port and starboard bow direction onto the forward part of the ship. Is that consistent with the weather which you have found from your research?

A I'd say it's very consistent. There was a westsouthwesterly swell. There was a westerly sea, and there was a northwesterly swell, and approximately at the time of 1400 local, there was this secondary cold front that amber line that I showed, was over the vessel, and therefore, having several directions was probably I would say at that particular time.

- Q Was this storm of sufficient note to be recorded in the weather log?
 - Yes, it was one of the intense storms of the month.
- And can storms like that from your experience produce damage to ships that encounter them?
 - A Well they do regularly.
- How long after 1400 did this storm continue in the vicinity where the ship remained?
- A The storm continued well into the next day, in fact I'd say 24 to 30 hours into the -- about 24 hours or a little more than 24 hours after the -- after 1400.
- O Is there a phenomenon called the movement of the maximum center of wind speed?
 - Well, I don't know if there is, but I did draw some

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

How about this shift of maximum centers? 0

I didn't see one of those centers.

Did you plot that on those exhibits?

No, I didn't. Well, the centers appear in the wave -- in the -- where I give the wind speed, you can pick out the two centers.

Those are the two red-dot centers?

Right.

And they passed that maximum wind area right over the ship; is that right?

Right. Λ

MR. ALLEN: That's all.

MR. O'REGAN: Your Honor, at this time may we request a 15-minute break? I'd like to analyze these diagrams.

THE COURT: Certainly.

MR. O'REGAN: In preparation for my cross-

examination.

THE COURT: Very well. Let me know when you are ready.

(Reccss.)

CROSS-EXAMINATION

BY MR. O'REGAN:

Mr. Kaciak, were you ever in the Navy? Did you

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

ever serve in the Navy?

- A No. I didn't.
- O Did you ever serve in the Merchant Marine?
- A No, I didn't.
- O A minor point, but you indicated I think that
 Mr. Raguso was once a student of yours. Was he ever in one
 of your classes?

A No, he worked for my firm and he just came from sea, and so he wanted to get into meteorology. He started working with my firm at that time.

- o How long did he work for you?
- A About four or five years.
- o Competent fellow?
- A Yes, he is.
- O I gather you are in the ship routing business; is that correct?
 - A That's correct.
- O Do you know whether the ANTONIOS DEMADES was routed on this trip?
 - A No, I don't know whether she was or not.
- Q Did you route any vessel ton this particular -- at this particular time of the year in this particular area?
- A Probably I don't -- I didn't check into that, but we probably did, yes.

Q You didn't check your records though in preparation for this case to see what the weather was?

A No, I checked to see what the weather was. I didn't check our records to see if we had routed a ship at this time.

I mean, whether we had a ship in the area at this time.

Q I see. You didn't route the ANTONIOS DEMADES though.

A No, we didn't.

O I'd like to refer to Exhibit S, and as if you would, would you tell us, please, specifically the latitude and the longitude you used as far as placing the position of the ANTONIOS DEMADES on that exhibit.

A Well --

Q This is the position at 1100 local time on the 6th.

A I have approximately 33.3 north and 157 possibly 35 west -- east rather.

O About 157.5 east?

A No, not -- yes, point 5, point 56 or point 6.

O Yes?

A In that area, yes.

Q Referring to Exhibit T, what position did you plot on that for the ANTONIOS DEMADES? That would be the vessel at 1700 local time on the 6th.

A Well, I tried to get it as close --

5

6

7

8

10

11

12

14

15

16

17

18

19

20

21

22

23

24

25

- No, I mean on the exhibit, what position did you
 plot the ANTONIOS DEMADES?
 - A I have a big circle, so I was trying to explain what that big circle is.

First of all, I didn't know exactly where she was, so that's the reason I used the big circle, because she could have been in any place in that particular circle.

- () What is the center of the circle?
- A The center of the circle is about 33.3 north, and I get 157.5 east.
 - C About 33.3 north?
- A And 157.5 cast.
- O 157.5 east. That is the same position as the position of the vessel on Exhibit S; is that correct?
 - A Well, yes.
- Q What is the position of the ANTONIOS DEMADES as you plotted her on Exhibit U? That would be the ANTONIOS DEMADES as you plotted her at 2300 local time on February 6.
 - A I'd say approximately 33.01 or 2 and 157.8.
 - Q That is longitude?
 - A Yes, east.
- O So according to your plot on the ANTONIOS DEMADES
 from 1100 local time on the 6th until the position you plotted
 her 12 hours later on the 6th, she went backwards? Is that

mo In

according to your plot?

A According to my plot, yes.

O How did you get the position of the ANTONIOS DEMADES that you used for plotting her on Exhibit S? That would be her 1100 local time.

A Well, I would presume at this point --

O No, how did you get it, not a presumption. How did you arrive at that information?

A Basically I believe she had drifted eastward and southward, if I remember correctly.

Q My question is, what information did you use to plot her position on Exhibit S? Where did you get the information to put that position on Exhibit S?

A Well --

MR. ALLEN: I think there is confusion. I gave him the SOS position, if that will help you.

MR. O'REGAN: I am not asking the witness what you gave him. I am asking him where he got that information.

A Well, I was basically placiting a circle around a particular location I had read in the mate's statement or -- I believe where she was rescued, there was some position when the vessel -- I believe when some of the seamen were rescued or something, there was a position of -- that the ship was a little bit further south and a little bit further

mb 1m

west.

1

2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

25

O Tell me what you did to get this position of Exhibit S.

A I don't think it really -- to me I don't know where the ship is to start with, so I drew a hig circle to try to encompass any place where she might be in a given area. To me she is not at a particular location or a particular spet.

Q You don't know where she was then when you prepared this exhibit?

A No. I don't. I know she is in a particular area within a certain number of miles around a particular point.

O How many miles?

A I figure that if she was steaming at 4 or 5 knots times 6 or 12 hours, she's going to go about maybe 24 miles. She could be within 24 miles of that particular position any place. It depends on her speed. I don't know what she was doing. The only point I knew is where she sent an SOS.

Basically that's the point I am using.

Q. All right. But what did you do, using that point, to put her at the position as you indicated her at on Exhibit S?

A My pen slipped.

O What is that?

A Maybe my pen slipped. I really don't know.

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

O Your pen slipped? Could you pen have slipped to the tune of 60 miles difference?

A There is no 00 miles difference. There's about a 30-mile differential between those points.

Q I show you Exhibit 51-M.

A Which point are you referring to?

O I show you Exhibit 51-M, which was prepared by Mr. Raguso. What is the position he places the vessel at at 1100 local time on the 6th?

A He places her at 32.8, 158.0.

Q How many miles away is that from the position you gave me, namely 33.2 miles north, 157.5 east?

A You want me to do a calculation or do you have a bigger chart? I will take a divider.

Q It won't be necessary. We can do the arithmetic. Let me ask you this: Let's take the middle point

of your circle for the ANTONIOS DEMADES.

THE COURT: The witness is not going to answer the last question?

THE WITNESS: I'd like a bigger chart so that I could measure. I can't answer it with the materials I have.

THE COURT: Have you withdrawn the question?

MR. O'REGAN: I will withdraw the question, your

Honor.

Into Li

THE COURT: All right.

Q I'r. Kaciak, let's go back again. I would like to cover a little bit more definitely what you did in plotting the position of the ANTONIOS DEMADES at 1100 local time on the 6th on Exhibit S.

What did you physically do and what information did you use to plot her at that position?

A I basically used the point 33.15 north, 157.30 east as the central point, and then about this point, I figured that the ship could be nearly in any direction, I hadn't the vaguest idea where she was. She should be in radius of approximately 30 miles of that point.

Q How did you get that point? What did you do to get that point?

A I was given that point 33.15 and 157.30 as the -I was given that point as the point where an SOS was sent,
and that was I believe the only firm fix they had on the
vessel.

Q You were given that point as the point where an SOS was sent. Who gave you that information?

A Mr. Allen.

Q Let's assume that the ANTONIOS DEMADES was in the position where Mr. Raguso placed her, at 1100.

A 1100 local on the 6th?

Yes.

2

3

4

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

O All right.

So you don't disagree with Mr. Raguso's interpretation of the weather conditions; is that correct?

A No, it's not correct. I disagree with Mr. Raguso -- I'd say on this particular case --

O This particular case you agree with him?

A In this particular case, I agree with him. There have been many other areas where I thought he did not analyze the charts properly.

O Do you know of any other vessels which sank in this storm?

A If it's to sink in this storm, no, but I believe there is another vessel that received damage in this storm and sunk later.

O How do you know that?

A I read a newspaper article of a Japanese ship that developed -- I think it was a Japanese ship that developed a crack off Japan.

Q Is this off Japan, this storm?

A Well, that's where the storm originated, yes.

O But did she receive the crack in this storm, did you say?

A I am not absolutely sure.

Q You don't know, do you?

To conduct a condition survey of the vessel prior

A

mb 1 m

Nielsen-direct

to loading and also to light draft the part loaded before she left Kearny, the part loaded before she loaded in Boston, and the loaded draft.

Q Were the loading surveys designed to compute the amount of cargo on board?

A Well, that is not in my realm. I don't lay out, you know, the hatch displacements as far as what --

O No, sir, what I was trying to say was, what was the purpose of the draft survey?

A To determine the quantity loaded.

Q Yes, to determine the quantity loaded. Hugo Neu was selling this scrap and they wanted to know how much went on board; is that right?

A Exactly.

Q So that was the purpose of that survey.

A Right.

Q What was the purpose of the condition survey?

A To determine whether the vessel would be seaworthy to receive this cargo.

Q Did you go through that entire ship except maybe the engine room; you went through it, down into the holds, all the cargo spaces, did you inspect each and every one of them?

A I did.

3

5

7

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- Q And did you inspect the bulkheads between each of these cargo spaces?
 - A I did.
- Q And did you inspect the hatch coamings and the hatch covers?
 - A I did.
- Q. Did you inspect all areas which you could see which affected the seaworthiness of the vessel?
 - A I did.
- Q And after doing that, did you prepare a report of all the defects which you were able to find?
 - A I did.
- Q And the purpose of that report was so that Hugo Neu wouldn't be blamed for anything that you had found before they took over the ship?
 - Λ Exactly.
 - Q Is Exhibit K a copy of your condition survey?
 - A It is.
- Q In that survey did you say you listed all the defects that you found?
 - A Yes, I did.
- Q Did you find any wastage in any of the bulkheads between the cargo spaces?
 - A Not that I can recall now; but going through my

Are you familiar with the type that's called ship

25

23

24

scran?

Yes, I am.

2

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

helieve that these are secured in the stowage position after the hatch, maybe in some cases foward, but certainly aft of Number 1 hatch.

- A No, they are all aft.
- Q Each one is aft?
- A Each one is aft.
- Q Do you remember now whether the ANTONIOS DEMADES had mast houses?
 - A No, I don't.
- Q When they are stowed there in the vertical position, they are out of the way?
 - A Yes.
 - Q They don't lay around the deck, do they?
- A Absolutely not.
 - Q They are not between the hatch and the side of the ship where cargo could hit them?

A No, the cargo could hit them if the crane operator releases his electronic equipment before it gets into the middle of the hold, but these are all aft, and they are loading in the square of the hatch.

Q If the crane operator missed the hole.

Now I noticed you say that you recommend that the tank tops and the side ploting be sheathed. Do you know whether that was accomplished by the ship?

Q You had a pocketbook with you of some kind?

J 212a

		0 2124
1	mb1m	Nielsen-cross 439
2	Λ.	No, I have a recorder.
3	Q	A voice recorder?
4	Λ	Yes.
5	Q	Did you perform any tests during your survey?
6	٨	In what way?
.7	Q Q	Air tests, hose tests, pressure tests.
8	Α	There is no reason for that.
9	0	But you didn't perform any.
10	Λ	No, I did not.
11	Ú	Is it possible that there can be openings in there
12	that you	can't sec?
13	٨	No. Openings in what? What are you referring to?
14	I don't ki	now.
15	Q	Plates, bulkheads, tank tops. You can't tell
16	without a	pressure test, can you?
17	A	You are talking about openings?
18	Q	Yes.
19	· A	Visually, there were none.
20	0	Visually there were none.
21	. У	Right.
22	Q	But you don't know whether or not there were any
23	pressure	ones.
24	٨	Not that I know of, because that is not part of our
25	survey.	

1	mblm Nielsen-redirect/recross 441
2	That was summation, your Honor. Thank you.
3	
	I think that's all, Mr. Nielsen.
4	MR. JACOBSEN: Just a second.
5	MR. ALLEN: I am sorry.
6	RECROSS-EXAMINATION
7	BY 'MR. JACOBSEN:
8	O When you made the survey, you went to some lengths
9	to list these indents, did you not?
10	Λ I did, sir.
11	Q And you had a reason for doing that, didn't you?
12	A Exactly.
13	MR. JACOBSEN; Thank you.
14	(Witness excused.)
15	
16	EDWARD FREDERICK GANLY, called
17	as a witness by the defendant, being first duly sworn,
18	testified as follows:
19	DIRECT EXAMINATION
20	BY MR. ALLEN:
21	0 Mr. Gamly, what is your present occupation?
22	A I am a marine surveyor, naval architect.
23	Q The name of your company is what?
24	A Is Ganly, Briggs, Inc.
25	O Will you tell me, in rather full detail, your

background and experience in the field of marine surveying and associated line of work.

A I graduated from Webb Institute of Naval Architecture and Marine Engineering in 1936 with a Bachelor's degree; and I worked shortly thereafter and for a short time in the federal shipyards at Kearny, where they were building destroyers and tankers.

But beginning in 1937 and continuing to the present,
I have been a marine surveyor; firstly for United States
Salvage Association, and was assigned to their European
office from 1937 until 1940. From 1940 to 43 I was in the
New York office. From '43 to '46 I was in the Navy as a
surveyor for the U.S. Navy.

And from '46 to '49 I was back in the New York office of U.S. Salvage, with also some duty in Norfolk and Boston.

In '49 I was sent back to Europe to work under their then general European agent, and in 1953 I was made principal surveyor in Europe for the area from the Azores to the Persian Gulf.

I came back to New York in 1959, as principal surveyor in New York, and in 1961, I resigned and started my own business.

Q Has your work included the survey of ships that

have been stranded?

A Yes, it has. I have been on ships that have been on the strand and have stayed there during the salvage. I have sailed in the ship to the repair yard. I have written the specs for repair, and I have supervised repairs.

O Approximately how many ocean-going vessels have you surveyed?

A Truthfully Lan't say, because over the years I haven't kept a continual count, but certainly it's been over 10,000 surveys, and of that, probably three-quarters were ocean-going vessels.

O At my request, did you attend this trial? You have been here all day all through the trial, have you not?

A Yes, I have.

Q And have you reviewed all the documents that have been marked in evidence that relate to this ship, namely, the American Bureau of Shipping certificates, and the ship's plans and the survey reports and the repair bills?

A Yes, I have.

O Are you familiar with the testimony that this ship sank in a storm on its way to Japan?

A Yes, I am.

Q The testimony is that the heavy seas indented and stove in two sections of the Number I hatch cover, indented

3

6

7

8

9

10

11

13 "

17.

19

21

22

24

25

one forward one, which remained in place.

In your experience, is that possible to a wellconstructed, well-found MacGregor type hatch cover?

Yes, it is.

You have seen the photographs of this type of cover which have been placed in evidence?

A Yes, I have.

That is the type you are talking about?

serious structural damage which has occurred to even heavier ships.

Q You know of even heavier damage?

A Yes, I do.

Q Can you describe some of that damage that a heavy sea would do to a ship.

A Well, I recall one job that I handled involving a 35,000-ton dead weight ship on her voyage from Narvick to the USA. She was westbound, but she was pooped by a following sea, and that following sea smashed in the after end of the poop house and completely cleaned out the galley, even the tiles off the deck, and flooded the quarters and stalled the main engine, which was a five-cylinder Doxford engine.

Is it possible for heavy ships to peel back a ship's hull plate?

A Yes, that is true. Although I myself have not had a survey on that, I know from the literature that that has happened, especially off South Africa.

- Q As a result of your study of all this evidence and testimony, have you formed an opinion as to what caused this ship to sink?
 - A Yes, I have.
 - O What is your opinion, sir?

A My opinion is that the sea broke in the Number 1 hatch, and after that happened, she took something like 2379 or 2330 tons of sea water in Number 1; and that put her, her stem down, increased the draft at the stem by somewhere between eight and nine feet.

Q Let me interrupt you. When that brings the stem down eight or nine feet, how much freeboard would be remaining at that time?

A I did not measure the freeboard. It cares done on one of the exhibits, on the profile plan, but I allow bother with the freeboard at that time because there was sequential happenings and I was only interested in the final water, what I thought it would be.

- Q Go ahead, I am sorry I interrupted you.
- A Well I think that after the Number 1 hold flooded, the chain lockers flooded either before or afterward. They

are notorious for flooding. The chain lockers are only a small thing, but they flooded, too.

7 8

Following the Number 1 and chain lockers, the forecastle spaces -- I don't mean the forepeak tank, I mean the forecastle spaces which are the two levels of storerooms and the lamp store and the paint locker, and that added something like 900 tons up forward. And this would put her down something like another three feet.

heading into the sea, without having any protection forward and taking this continual slamming and pounding of the sea up forward, I think it quite probable that the air pipes for the forepeak tank were broken off, and this also is based in my experience. I have seen this and have seen a ship that came in from the sea with wooden plugs where the air pipes used to be because they were swept away by the sea.

This would then flood the forepeak and put another 700 odd tons into the ship.

THE COURT: It would flood what?

THE WITNESS: The forepeak tank. That is the

This would increase the draft another two feet about. So that we have altogether, say, eight feet and three and two is about 13 or 14 feet increase in draft; and she

3

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

started out with about 42 feet-8 inches forward or thereabouts. And you add the other 13 feet or 14 feet, so she must have been, what, 46, 47 feet in still water at the stem. And this puts the water line at the stem just about in the hawse pipe.

Ganly-direct

- Just about in the hawse pipe?
- Yes.
- Where the chains go in?
- Λ That's right.
- 0 That is pretty low down, isn't it?
- It is, of course. Α

Then I think because of the fact that the ship didn't do anything to try to minimize the force of the sea at this forward end, I really think that the sea swept off the ventilator trunks -- I am not talking about the plugs in the trunks, I mean actually breaking the ventilator trunks on the top of the mast house and breaking the air pipes from the ballast tanks, both the topside tanks and the lower tanks. They come up on the tank with a gooseneck and a nonreturn valve, but I believe they were swept right off, and this is the way that she flooded Number 2, and Number 3 through the deck.

But there is also, I think, a strong probability that the bulkhead between Number 1 hold and Number 2 hold

because of the surging of the water in Number 1 hold. That bulkhead was never designed to withstand the surging of a liquid cargo as a tanker is, and i have surveyed tanker bulkheads that have been damaged by the surging of cargo; where one tank has been full and the next tank has been less than full.

I think this is the way the ship went. I believe that if she'd been turned around stern to the sea and kept that way, I think there would have been a very good chance she would not have sunk.

Q As I understand it, you said the ship was lower than she should have been with Number 1 hold flooded.

A Yes, sir.

Q And then as she continued into this stormy sea, the wave action coming aboard did this additional damage and each compartment that filled up drove the ship lower, and exposed the upper structure to the wave action.

A That is true.

O And these upper structures are not designed to withstand direct wave action, are they?

A No, they are not, but even some of those structures that are designed for that, for instance, these air pipes on deck, they are very heavy pipes, six or eight-inch pipe. I

- have seen them swept right off by the sea and, as I say, I have surveyed a ship that came in with wooden plugs where the air pipes were.
 - O Let me ask you about plugging the ventilators, which is the testimony of this case. Is that a normal and accepted practice?
 - A Yes, it is.
 - O When you unslip the cowl --
 - A Yes.
 - O -- then you plug up the ventilator with some kind of a wooden plug and then cover it with tarpaulin, I think is the way it was described?
 - A Well, it's really a canvas boot which is made for the ventilator and slips over and is tied down.
 - Q Is that a good, acceptable seaworthy condition?
 - A Yes, it is. It's the only one that I have seen anyway.
 - Q There is testimony that the opening at the hawse pipe was blocked off at the beginning of the voyage with burlap and cement. Do you say the seas could easily have picked that out?
 - MR. JACOBSEN: Objection, leading question.
 - Q In your opinion, would this have withstood direct wave action?

A No, I say from an experience of having done a number of surveys of ships that have been in heavy weather, it's not unusual to have a chain locker flood in spite of having concrete or metal covers over the chain pipes.

Q Did you make any estimate of how far the ship would drop for each additional quantity of water that came aboard and stayed aboard?

A Yes, I referred to the loading manual. I think it's on page 4 there is a little nomogram which can be used that gives an estimate, and that is vhy I quote my figures as estimated because it's a very small nomogram and it's a photostatic copy, but I don't think that my numbers are very far wrong because I agree with Mr. Gilbert, especially about the sinkage of Number 1 hold. As a matter of fact, my number is a little bit less than his so --

O What I was going to say, do you have a round number figure on how many tons would drop the ship down one foot up forward?

A That is a matter of the foot tons of moment, you see, and if you have the added weight up near the bow, it has more effect than if you added back aft, so it's a question, it's like how much string is in the ball. It depends on the size of the string.

Q Say up in the forward area in the chain locker in

2

3

4

5

6

9

10

11

12

13

14

15

16

17

18

19

20.

21

22

23

mb1m : Ganly-direct

the focsle head, suppose you added 300 tons there, how far would that drop the ship, do you recall?

A Yes, that would draft about 40 feet or 42 feet. Each hundred tons added up in that forepeak area would drop the ship a little bit less than four inches.

O According to the way you have believed this ship sank, would the deck shortly be awash with this additional water coming into those areas you described?

A Well, of course.

MR. JACOBSEN: Objection, leading question.

A I don't have sea experience, but from putting the water line on the profile plan and just looking at it and having read the statements, I think anyone can visualize that the deck was more underwater than on top of it.

O And you, I gather, are in more or less general agreement with Mr. Gilbert that with Number 1 hold filled with water as we know, and with Number 2 and 3 only half full, the ship was ready to go under?

A I wouldn't doubt Mr. Gilbert's figures at all; although I did not do that calculation, I have no argument with his figures.

Q Did you examine the pumping and ballast arrangements on the plans of this ship?

Yes, I did.

24

Ganly-direct

topside and some are bottom tanks.

O What is the approximate size of the bilge line?

A Well, that's on the plan. I think it's a hundred millimeters; but that could easily be seen on the piping plan. It isn't a great deal. It's three or four-inch line. It isn't much.

Q Roughly a three or four-inch pipe line?

A Yes.

Q And we can get it accurately if we need to.

A A bilge line is not intended to be a salvage pumping line. It's only for pumping a chance accumulation of
water in the cargo hold where a cargo hold is not supposed
to have water.

O If the water ingresses with greater than the capacities of those lines, then would these spaces gradually fill despite all the pumping you could do?

A Yes, they would.

Q There was some talk here about a theory of lockedin stresses, a possibility of locked-in stress on this ship
from a prior grounding. Were you here when that was
discussed?

A Yes, I was.

Q Do you have an opinion as to whether there was any locked-in stress in this ship?

225a mb1m -1 Canly-cross 456 A No, I was made a member in about 1062 or 3, and I 2 was made a fellow about four or five years ago. 3 But you are not in New York. 4 Not in New York, no. 5 You don't have experience in naval architecture 6 7 design? 8 A No, my choice, I chose not to be a designer. I do 9 more analytical work than design work. O Have you examined Mr. Gilbert's calculations and 10 11 plans? 12 I cursorily glanced at them. That's all. 13 And you have no objection to them? No, I have -- I think he's done a very good job, 14 15 as a matter of fact. 16 Have you had any sea experience? 0 17 Λ Only from time to time. 18 0 Is that --I made several voyages, that's all. 19 A Was that back when you were in school? 20 No, no. No, the last voyage I made was on a bulk 21 22 carrier. I made a voyage during a dead weight survey en route to settle a dispute between the owner and the charterer. 23 24 I sec. How long ago was that?

That was four, five years ago.

. 2

3

4

5

7

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

all were being pumped out?

"Answer: Yes."

THE COURT: This is on February 6th?

MR. JACOBSEN: That's correct.

"Answer: Yes.

"Question: After 1700?

"Answer: Yes.

"Question: And this pumping continued thereafter?

"Answer: Yes."

Q My question is, with respect to that testimony, that flooding in itself in the Number 2 and 3 cargo holds and in the Number 2 and 3 double bottoms is sufficient to sink the ship, is it not, in addition to Number 1 being flooded?

A Well yes, if you flood all of those, I presume she would go down, yes.

O So that it wouldn't be necessary to guess whether the forepeak flooded or the chain locker flooded.

A Except to say that you know of a certainty the chain locker certainly did flood. I mean this is something you know. And the focsle spaces must have flooded.

Q You haven't seen that in any of the evidence though, have you, that the chain locker flooded?

A No, this is -- I freely admit this is based upon

O There is no doubt that there was progressive

24

25

The answer is ves.

. 18

flooding in this ship, is there, there had to be?

A I would agree with that. I think so. But I will say this: That as in many of these cases, you have to sort of weigh the evidence and the statements and the depositions. Men tell what they think is the truth, but sometimes when you put one against the other, it doesn't add up. But I think in the main there is no doubt there was progressive flooding in this case.

Q The ship would not sink with just Number 1 flooded, would it?

A No, there is no reason why she should provided, of course, that you put your tail to the wind; so that you don't have this progressive flooding.

Q I am asking you, there is no reason why the ship should sink with only Number 1 flooded, either way.

A I see your point. All right, I will answer the question as it's asked. The answer is no, the ship should not have sunk with Number 1 flooded. That's all.

O Now the ship as constructed for a bulk carrier like this one is constructed should have watertight bulk-heads between the holds, should she not?

A Yes, it should.

Q In other words, the bulkhead between Number 1 and Number 2 should be watertight and the bulkhead between

J 229a

	0 2234	
1	mblm Ganly-cross 464	
2	Number 2 and Mr. 3 should be watertight?	
3	A That's right.	
4	Q And the tank tops between Number 2 cargo hold and	ı
5	the double bottom below there should be watertight?	
6	A Yes, it should.	
7	Q And likewise, between Number 3 cargo hold and the	
S	double bottom below Number 3?	
9	A That's right.	
10	Q The bulkhead between Number 1 hold and those	
11	focsle spaces including the forepeak tank and the spaces	
12	above it, that should also be watertight?	
13	Λ Yes, it should.	
14	O The chain locker is not very big, is it?	
15	Λ No, not very big.	
16	Q The air duct, the air vents that go into Number 2	2
17	and into Number 3, they are vertical, are they not?	
18	A They are vertical, that's true.	
19	Q In other words, there are no ducts going from	
20	Number 2 to Number 3?	
21	A Oh, no, no. No, each tank is separate.	
22	Q And those air vents don't go below the tank tops?	?
23	A No, the vents normally don't go below the tank	
24	tops, no.	

They don't go into the double bottom, in other

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

200

2 words.

- A Well, your ballast vent is double bottom.
- Q I am talking about the air vents.
- A Yes, each ballast tank has an air vent. And this air vent comes from --
 - Q I am talking about the cowl type.
- A Oh, well, then you are not talking about that then.

 You are talking about a ventilator then. I am sorry. The

 ventilators are for the cargo holds.
- Q Right, the ones that go into the cargo holds don't go into the double bottoms.
 - A No, they do not, they only serve the cargo holds.
- O What you are saying is there is a gooseneck job that comes up from the double bottoms.
 - A That is right.
 - Q There has to be a gooseneck?
 - A Yes. Well, they have a ball type non-return valve.
 - Q So that the water can't go in.
- A Can't go in. As the water comes in, the ball lifts and seats against the set above itself.
- Q. So if splash or seas get on board, that thing is supposed to close.
 - A That's right.
 - Q We are talking about the double bottom now.

4

5

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- 2 | A We are talking about the double bottom tanks no
 - Q And now about the testimony of the bosun that t ventilator cowls were taken off and wooden plugs were put those.
 - A That's correct.
 - O In those ducts.
 - A That's right, and to further clarify it, the ventilators for Number 2 hold are on top of the mast house between holds 2 and 3.
 - Q Which is some distance above the main deck.
 - A That's true.
 - On this ship, isn't it?
 - A That could be. You could check that by looking the profile.
 - Q The sounding pipes on the deck of the ship, the are something of an arrangement like that right in front your witness box, aren't they?
 - A Yes, that's right.
 - O In other words, they are flush with the deck or nearly so.
 - A They usually are although it depends upon a designer. You know, if a designer can do it differently, he wants to, but normally they are this way.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- Q As far as you know on the ANTONIOS DEMADES they were like that?
 - A I don't know what they were.
 - Q There is testimony that the after end of the hatch in Number 1 up on top on the main deck is about 12 feet foward of the bulkhead. Do you agree with that?
 - A You mean 12 feet forward of the bulkhead of the cargo hold below.
 - O That is right.
 - A Yes, that's all right.
 - Q So that there is 12 feet before anything can get to that bulkhead.
 - . A You mean from the --
 - Q Below deck.
 - A Perpendicular from the hatch coaming at the after end you drop down and the perpendicular distance from that to the bulkhead is 12 feet?
 - Q That's right.
 - A All right.
 - Q Then this side of the hatch on deck is some distance in from the side of the ship.
 - A That's right.
- Q Did you calculate the freeboard of the vessel after Number 1 hatch is flooded? In other words, for the Number 1

2 side.

O You don't seriously believe that a hatch cover section could go down into the hold, go aft and hit the bulkhead, then come back out forward, against the sea, if there is any, and then back up through the hold and the coaming and then go aft and go to its regular storage space there where the bosun testified that they ended up.

A Well, to answer the question as you ask it, of course, anything is possible. If you ask me if I think it probable, I would say no, highly improbable.

Q You spoke about strandings. It is possible, isn't it, for a ship to become hogged on a strand?

A Yes, indeed.

Q And adverse weather conditions, swell can aggravate any damage sustained to a ship that is on a strand?

A While she is on the beach, she may continually suffer additional damage.

Q This ship was on the bottom obviously all the way back to at least the midship part of the ship when she was on Quito Sueno Bank, wasn't she?

A Yes. If we may see that, that drawing.

O Which part do you want?

A Well, the one on the milar. That's it, yes.

Q Exhibit 60.

- 2 0 HOw much do you need to get deformation of the 3 hatch coamings and the hatch covers on deck?
 - A You mean from a grounding?
 - Q From a grounding.
 - A I have never in my life seen this.
 - Q It would be quite a bit, wouldn't it?
 - A You would have to distort -- I will tell you exactly I will answer your question. You would have to distort all of the structure from the bottom up to the deck in order to twist the hatch coaming.

The hatch coaming itself is not going to be damaged merely because you have got damage 40 or 50 feet away from it without the intervening structure being damaged. You have got to carry the stress and strain from the bottom up to the top.

- Q But you have seen ships that have been sailing in a hogged condition, haven't you, permanent hog?
- A Yes. One I remember not a hog, but a sag. It was a lawsuit. Yes, I recall that.
- O And there are ships that have sailed in a permanent condition of sag?
 - A Yes. She was built this way.
- Q In other words, they are hogged or they are sagged without any cargo on heard.

J 235a

1	mb1m	Ganly-cross	475
2	Α	I mean the one I am referring to was built	that wa
3	ú	That is possible, too.	
4	٨	She was sagged on the building ways, that'	s right.
5	0	Isn't it possible to do this without a gro	unding;
6	in other	words, through a loading?	
7	Λ	Oh, yes, surely. All of these long ships	do flex;
8	and they	sag; yes.	
9	0	Isn't it true that the ship out at Port Je	fferson
10	just reco	ently broke in two while she was loading?	
11	Λ	That is right.	
12	· Q	She wasn't aground.	
13	Α	She wasn't aground. That's quite so.	70
14	Ú.	When was this vessel due for annual survey	? .
15	A	She would have been due just about the	time of
16	the compl	letion of this voyage, I would say.	
17	0	She finished her special in January of 196	9, and
18	it's Feb	ruary 1970 now.	
19	· A	Right, yes, so at the end of this voyage s	he was
20	due for	an annual.	
21	If neces	You spoke about the pumping. Referring to sary, we will look at it, referring to that	
23	plan, bal	llast and bilge arrangement plan Exhibit 2,	you have
24	looked at	t that plan?	

25

Λ

Yes, I have.

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

decided that the size of the bilge pump shall be, then the piping runs from that.

Canly-cross

These air pipes on deck that you mentioned on the focsle head, are those the gooseneck type?

They should be gooseneck, too. Every tank should have a gooseneck.

What diameter are they?

That varies with the capacity of the tank, but I would think from this forepeak you should have probably a six-inch line.

) That is a metal steel pipe?

A Yes, a heavy, probably is an extra heavy pipe with weld at the deck, comes up about oh, maybe as high as this balustrade here, and it sits underneath this -- the rail up on the focsle for protection.

Behind the bulwark?

Yes, for mechanical protection.

It's also protected from the sea to some extent by the bulwark?

To some extent it is, yes.

Did you say how much the ship would go down as a result of the chain locker filling?

I didn't figure that itself. I figured only --

It's not much, is it?

24

A 37 tons. With the chain in, you'd get about 37 tons of sea water, that's all.

Q That is not much. And you mentioned the forepeak.
tank, if it flooded.

A If it flooded.

Now the focsle head spaces above the forepeak tank, they don't flood unless they get below the water line, do they?

A Well, you see they have ventilators. There is a ventilator for the lamp room and there is a ventilator for the paint locker that comes out on the after side of the bulkhead. So if you have an awful lot of water on the foredeck, you will flood back through them.

Q What kind of ventilators are those?

A Nell, the plan shows the one on the port side as almost like a Charley Noble. It just comes up from the deck.

The general arrangement plan merely shows it schematically as a vertical.

Q You have never been on the ANTONIOS DEMADES, have you?

A I don't recall that I ever have.

Q It is necessary to have a bending moment, a bending moment curve in order to properly load a ship; isn't that

2 surveyor?

A Yes, it would; but even if the ship is deformed, it doesn't mean that she has an unacceptably high level of locked-in stress because that can be a permanent deformation that came simply because the ship was stressed beyond its elastic limit.

Q And at this same dry-docking if there had been any damage to the hull plates underneath the double bottom, that condition was either corrected at that time or was found to be nonexistent; isn't that right?

A That would be my conclusion from reading the surveys, yes.

Q The surveys and repair bills and that diagram in front of you, I think it's Exhibit 60, showed some work on those plates, didn't it?

A Yes, it does.

Q You were asked about the possibility of those hatch covers surging against the bulkhead between Number 1 and 2 in the hold; and I think you said you didn't think it was probable; but let me ask you about the surging water in Number 1 hold after it was flooded. Would that have any force or effect on that bulkhead?

A Yes, I think this is a very important force, and
I mentioned this earlier. I think this is one of the reasons

mb1m

Ganly-redirect

why we had flooding progressively, not only through the sounding pipes -- pardon me -- not only through the air pipes, but also through fractures in that bulkhead because of surging damage to the bulkhead.

Would this surging water be accentuated or reinforced by seas continually coming in the open hatch?

A Yes, it could, although this is a very complex question but certainly, seas coming in the hatch wouldn't help it any, put it that way.

Q All right, and would the cargo be caught up in this water action, the steel fragments?

A I would say that prolerized steel, which I have seen, would easily be swept up just as shingle and small stones are swept up on the beach, and of course since they would then add to the specific gravity of the wave, they would increase the dynamic effect of the wave hitting the bulkhead.

- And they would be thrown against the bulkhead?
- A Yes.
- Those bulkheads are not designed to take surging wave action, are they?
 - Not in this ship, no.
- It's designed to take just a solid -- a still body of water; isn't that right?

3 4

2

5

7

6

8

9 10

11

12

13 14

15

16

17 18

19

20

21

22

23

24

- - A Yes, that's right.
 - Q That is all it was designed to do.

Now, if you have a ship that is moving into heavy seas so that it's unsafe to go out on deck and take soundings, how do you find out if there is any water in the cargo spaces or double bottoms?

A Well; if you want to find out truthfully and accurately, what you have to do is to open the suction line to that particular space, close all the others, and pump.

And if water comes out at first, that doesn't mean you are pumping from the compartment. That may be what lay in the line or the manifold. And you have to keep pumping, and if you get a continual stream from the pump, you know there is water in the compartment. If there is no water in the compartment, after she empties the line you will be pumping air, and then you know that the compartment has nothing in it.

Q But do you see anything unusual about continually pumping in a ship that is sinking?

A No, I don't; nor do I see anything unusual about pumping three or four spaces at once.

Q Could you calculate the freeboard of that vessel with the Number 1 hold flooded at Number 1, just as you did with respect to the forepeak, the fore-end of the ship?

A Mr. Gilbert has already done that, and I think his

A Only if this brings about a geometrical notch which is significantly from a metallurgical point of view, and that doesn't happen with repairs.

Q I am not suggesting to you that a ship can't be made stronger by repairs, but isn't it also true that a ship can be weakened as a result of repairs? Isn't that possible?

A Well, I have got to say possibly yes, but my goodness no respectable shippard would do it.

Q You mentioned surging in the hatch. The testimony is that Number 1 hatch was full. Assume it was full at one point. Are you going to have surging with a full hatch full of water?

A Well you would -- she would spill water out of the top, yes. Yes, there's got to be surging.

O It would be minimized the fuller the hatch is?

A That's true, that's true.

Q If it's full, there is not going to be any surging?

A Yes, if she is absolutely full, there isn't, but she's got to surge until she reaches that point.

Q When the bosum looked at it and said it was full, assume it was full, then you wouldn't have surging?

A No, if she stayed that way, I would agree with you, that's right.

Q If you had deformation of a ship, and you were

234

1

6

5

7 8

9

10

11

13

14

15 16

17

18

19

20

21

22

23

24

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

going to use a transit; you should use it both before it goes into dry dock, in dry dock and out again, wouldn't you, because that would show the differences?

A That's right, that's right.

Q So you should do it afloat as well as in the dry dock.

A You should if you think it's necessary. If you are looking for hull deformation, that's right. Yes.

MR. JACOBSEN: No further questions.

MR. ALLEN: Just one question.

BY MR. ALLEN:

Q With this ship pitching and rolling, water would constantly be spilled out, partially spilled out of Number 1, wouldn't it, and create the open area that was necessary for the rest of the water to surge.

MR. JACOBSEN: Objection, leading question.

Q Is that correct?

A Yes, that's what I said before in answer to one of Mr. Jacobsen's questions. I say she would spill the water out of the hatch.

MR. ALLEN: That's all.

MR. JACOBSEN: One more question.

BY MR. JACOBSEN:

Q If you punctured that mast house aft of Number 1

2 draft.

O Didn't the ABS class the vessel, and in classing the vessel take into consideration the draft that it was assigning to the vessel?

A There is a misconception here, I think. The design draft is based on the scantlings of the vessel, on the strength of the vessel, and can be much greater than the minimum freeboard that the load line would assign.

In cases that the scantling draft is less than what they will get under the load line convention, then of course they cannot get the load line draft, but they have to get the scantling draft as a penalty.

Q Well, I show you Exhibit 14. This is a loading manual. It doesn't say the ANTONIOS DEMADES. It says another name, ATLANTIC STAR.

A It's the same class.

Q But it's in the same class, and the second mate said this is the same loading manual that was on board.

Now that loading manual doesn't take into consideration the increased draft that the ANTONIOS DEMADES effected sometime after 1966, does it?

- I have to look. I don't know.
- Q Please take a look.

(Pause.)

2 A No, it does not.

Q In other words, that loading manual, Exhibit 14, only goes as far as the permissible draft or freehoard before 1966 for the ANTONIOS DEMADES.

A 1 wouldn't use the word permissible. The assigned draft.

Q All right, the assigned draft. That only goes up to the assigned draft prior to 1966.

A That's right.

O. The ship can't lord beyond the assigned draft, can it?

A That's right.

Q ABS wouldn't permit that, would they?

A Well, we don't police, but it's against the regulations. They can go to any port and if they are loaded deeper, the port authority there will stop them.

Q They are not supposed to load past the assigned draft.

A That's right.

Now, looking at Exhibit 59, that increased the draft, did it not? That's the load line certificate after 1966.

A That's right.

O And that decreased the freeboard then.

- A That's right.
 - O How much, about 24 inches?
 - A By two feet, yes.
- Q Now I show you Exhibit BB, which was introduced by the defendant. Is that for the 1966 Load Line Convention?

A Well, this is an existing vessel which means under the '66 it was an existing vessel which means 1930 Convention.

Q Doesn't this up here say "International Load Line Certificate, 1966"?

A Right. You cannot issue -- there are ships now that sail with assignments of '30 Convention. You cannot produce any more certificates under the '30 since the '66 came into force, all the certificates has to -- they have to be on the same form, but the distinction is here, whether it's a new ship or an existing ship under the Convention of '66. And this is an existing vessel, under the '66 Convention.

- Q Are you telling us that they could get a new assigned draft under the 1930 Convention as a result of the 1966 Convention?
 - A No, no, I am sorry, I didn't say that.
- Q All right. Referring again to Exhibit BB, what is the permissible freeboard there?
 - . A Ten feet-9-3/4 inches.

12

13

14

15

16

17

18

19

20

21

22

23

24

0

506

A Right, as an existing vessel though.

Bending moment curves are not included in

25

hydrostatics.

	mblm Fountoukidis-cross/redirect 511
1	
2	Q I know, but in this pamphlet, in this loading
3	manual.
4	Λ Oh, in this, in the whole manual?
5	O Yes.
6	Λ I didn't check. No, I don't think no, there
7	was no nothing.
8	MR. JACOBSEN: No further questions.
9	REDIRECT EXAMINATION
10	BY MR. ALLEN:
11	Q Let me see if I can just straighten things out wit
12	one or two questions.
13	Am I right in understanding that the change in the
14	draft of the ANTONIOS DEMADES was made under the 1930
15	Convention?
16	. A. That's right.
17	O And under that Convention, no new loading manual
18	was required, was it?
19	A That's right.
20	O And so when you
21	A In approved form.
22	O In approved form.
23	Now, then after 1966, when the new legislation
24	came into effect, that incorporated and included the 1930
25	rules, did it not?
1.3	II FILLS, UIVI IL NOVI

the loading manual, Exhibit 14 there, which is for the

previous draft, previous freeboard, that that is still

all right according to the rule now, even though there's

23

24

25

21

22

23

24

25

Yes.

board. I don't kng

0

But don't you think it should have been brought upto-date?

I am not saying that you know.

I am looking at Regulation 19(b).

Right, that is what I have here, right.

24

25

0

Λ

252a 1 mb 1m Fountoukidis-recross/redirect 510 0 Which is marked Exhibit 47. Do you agree with that? 2 Λ Yes. 3 That is where any alterations are made to a ship so-4 5 as to materially affect the stability information supplied to 6 the master, amended stability information shall be provided. 7 A That's right. 8 O And do you agree that an increase of draft of two 9 feet, which is over two some thousand tons, is a material --10 would have materially affected the stability information? - A 11 Yes. 12 MR. JACOBSEN: No further questions. 13 BY MR. ALLEN: 14 Q And there is in the rule that says that amended 15 information has to call for a complete revision; in other 16 words, that can come in the form of a supplementary pamphlet, 17 can't it? 18 That's right, usually that's the way it's dene. 19 0 Usually that is the way it's done? 20 A Right. 21 MR. ALLEN: Thank you. That's all. 22 MR. JACOBSEN: No further questions, your Honor. 23 (Witness excused.)

MR. ALLEN: Your Honor, Mr. Jacobsen and I have agreed to stipulate that it will not be necessary to bring

24

- 1

a witness down from Boston, namely, an officer of Moore & Company, the ship's agents in Boston, to identify the two letters in Exhibit L as letters which the master sent out at the time of loading just before her departure from Boston.

THE COURT: Which letters have already been referred to, have they not?

*TR. ALLEN: They have. I just wanted to explain what they were.

And then, your Honor, I have requested, and I thought I would have it here today, a certified copy from the Panama Canal Zone of this ship's draft as she went through the Canal. It's on the way, and I wonder if when that comes in, we can just submit it as an additional exhibit. It will be a certified copy of the official draft.

MR. JACOBSEN: Is it any different than the one that was given by the pilot?

MR. ALLEN: If I had seen it, I could tell you.

THE COURT: 'You don't know what it's going to say?

MR. ALLEN: I don't know what it's going to say, but it's going to be certified and official, and I will ask that it be --

THE COURT: You are willing to take that risk?

MR. ALLEN: I am, I certainly am, and I will offer it for no other purpose. I don't know what other information



1 mblm

3

5

6

7

8

10

11

12

13

14

15

16

17

. 18

19

20

21

22

will be in there.

Mould that be satisfactory to submit that within a day or two?

THE COURT: Certainly.

MR. ALMEN: Now I have one final request, your .
Honor.

THE COURT: Of course I will give a copy to Mr. Jacobsen.

MR. ALLEN: Yes, of course, and I will show it to him before I submit it to the Court.

Now I have one final request, and that is with respect to Exhibit II which is the deck log of the CHILE "TRU, the ship which picked up the survivors, and of course these pages, these three pages, the 5th, 6th and 7th of February, 1970; and I offer them in this context: In the deposition of the second officer, he was asked on cross-examination, and I will just read this one page, if I may:

"Question: Did you read the statement -- "

THE COURT: That is Exhibit 38?

MR. ALLEN: 37, sir.

THE COURT: All right.

MP. ALLEN: "Ouestion: Did you read the statement over before testifying today?

"Answer: Yes.

23

24



GICHANOWICZ & CALLAN

OCT 16 1975

COPY RECEIVED